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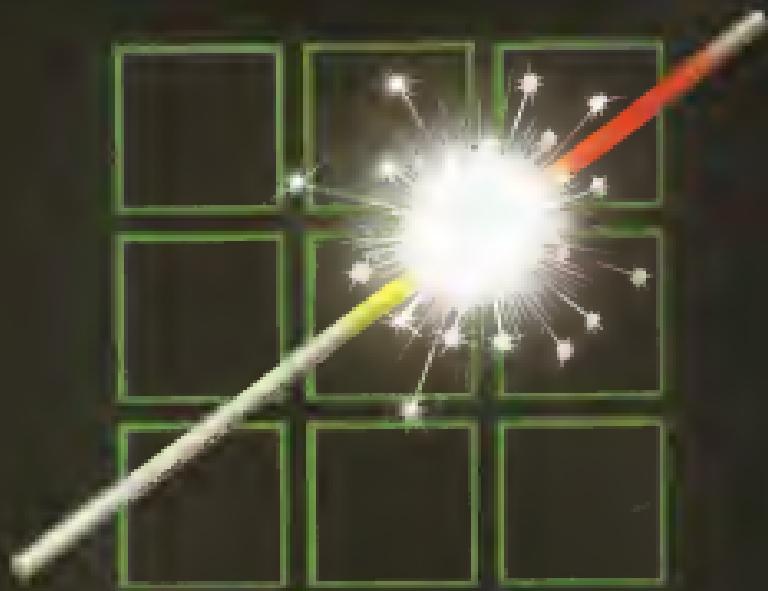


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Contents

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The latest 64 and C16 games from the greatest names

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Holiday's epic of racing and space war. Plus on the 64

Shadowfire

Reynolds' adventure without words measures your power choices to win it! Thrill!



Tower of Adventure

Barbara Corlett starts with Spiderman and The Beatles

CREATIVE

Electropop 64



All the bases we add the keyboards, mice, MIDI and more, software

HARDWARE

The Commodore PC



37

CBM's new machine may dominate the business market — but what does it offer you?

Editorial

THE RECENT management changes at Commodore UK, coupled with the lack of confidence displayed by members, has led to a general air of uncertainty. The departure of Howard Samsworth was replaced by the claim that leaving put the Coles plant into production, but this had been refuted. However, the current pricing problems with the 64, which stem from the cuts in the Plan W price, have now compounded the difficulties. The loss of marketing manager David Corlett was understandable in the resulting confusion.

Now Nick Rivers, formerly of IBM, has taken up the mantle of UK general manager, and dealt with a disgruntled staff, chain and a disappointed public. Great faith is being placed in the business machine, though most of you will be more interested in the C128 and the forthcoming Amiga machine. In return to be seen whether Rivers, and whoever assumes the duties of marketing manager, can restore the position of Commodore in the home computer market as the shadow of Jack Tretton's Asian looms ever larger.

LONDON: Christopher Jenkins PRODUCTION DIRECTOR: Barbara Hayes EDITORIAL: SIMON BARTLEY Creative: Joseph GROVE ADVERTISING: MISTY MANAGER: David Lake ADVERTISING MANAGER: Simon Liapides ADVERTISING: PUBLICATIONS DIRECTOR: Simon Liapides ADVERTISING: SALES DIRECTOR: Simon Liapides MARKETING DIRECTOR: Simon Liapides PUBLISHING: DIRECTOR: Simon Liapides PUBLISHING: SALES DIRECTOR: Simon Liapides ADDRESS: Commodore House, 100 Stourton Street, London WC1H 9PT TEL: 01-580 4199 FAX: 01-580 4199 £10.00 for 12 issues, US and Canada \$16.00 for 12 issues, £10.00 for 12 issues, overseas surface post £1.00 and airmail £2.00 for 12 issues.

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ABC

SUBMITTING ARTICLES: Commodore Magazine invites readers' contributions, either program listings or stories. Articles should be typed, double spaced with a wide margin. When possible programs should be submitted on cassette or disk with a printed or plain white paper. Please keep a copy of your submission — do not send your only copy. Please enclose a s.a.e. with your submission to be returned. All submissions must be your own original work.

UTILITIES

Superbase Starter

Persson's budget package introduces using databases

PROGRAMMING

Paging on the 64

Adrian Warner explains how you can manipulate RAM

Software File

Eastern's program including 64 utilities and 16 drivers

REGULARS

Letters

Comments, plotters, loading zone and Computer Disk

News Desk

Changes at the top as CBM, the Amiga and the C16 Computer Show

Answer Back

Jack Cohen tackles the lesser bunch of technical queries

Profile

We talk to Steve Gallopolis of Plan Publishing, about plans to attack the UK market



Competition

Win ALIENOF 2 games, power and matches from Elec



Next Month

Magic Mouse

What's next? Should you though a mouse

Pascal, COBOL, and Forth

Exploring the alternatives to Basic

Plus

Competitions, news and reviews



The Home SUPERMARKET

You can now buy the complete range of "off the shelf" home products like papers, if not the next issue of *Homes & Interiors*. All you have to do is choose your selection from the shelves and return it in the cellophane with your remittance. We receive the postage and packaging cost either in full or else money back guarantee. Please post your money back form and remittance to: Computerware, 3000 Ashton Road, Bexleyheath, Kent DA6 7DS.

HARD DISKWARE

For those who require a general review application or a second household package, *InterSpace* (standard disk depth, five times the standard Winchester disk capacity) is for you.

For those who need to evaluate and store information for many projects, *Stata* (standard Winchester disk capacity). The basic package includes a mailing list and different print programs.

CALC RESULTS

Calc Results, the Residential applications for the BBC, is aimed for all those interested in house purchase and ownership. It contains such facilities as planning permission, house buying, selling, insurance, rates, tax, planning, let, write off allowances to fit in the office tool. *Calc Results* will make calculating, programming, simulation, consultancy etc much easier for the business - large or small. This covers 16 security packages covering in three versions - *Calc Results* easy, *Calc Results* standard and *Advanced Calc Results* packed with advanced features.

Advanced Calc Results is also available in eight European languages.

Advanced Calc Results contains a larger number of applications in the areas of - FINANCIAL AND EDUCATIONAL FINANCE, STOCKS AND SHARES, STATISTICS, MAPS, ETC.

The user of *Calc Results* will find among the applications over many useful utilities of more than one hundred from *Calc Results*.



T 102 Handic Super-Advanced Business
It's full of questions for you!
Characteristics: 84. Have to be asked
descriptions of return flows all over.
Don't forget - if you need any more
information, add the file number
from this column (80) or give us a
ring.

1. Money 84
An outstanding Business Code
Monitor to manage business!

2. Telephone

Communication cartridge for use
with the COMM 84, and up with Data
bases like the bank or
supermarkets over the telephone
lines.

3. Superbase 84

An expansion unit for the
Commodore, which features three
independent cartridges under ROM
protection. Lots of features:
Data base, bank, telephone
and telephone lines (80). And it can
switch between applications in total privacy
on the Commodore. It's a unit well
designed, and it's particularly fit for
those lines which require frequent
changing between programme complex
and relatively easier-to-use sub-routines.

4. Math 84

VisiCalc offers IBM as a relies cartridge
for the COMM 84 and Visi 84 which
has almost identical applications
such as control of multiple stores,
program choices, data banks, address
registers, graphs, transformations,
model numbers etc etc.

5. Disc-based games

Handic have a set of disc based
games for the Commodore 64, all
are great fun and superb colour
graphics. Available through Handy
Software 100-102 Highgate Way
London NW10 6JL.

Quarterly discounts are available on
request - please ring us and ask
for more information.



6. Library 84

An excellent program for keeping track
of telephone numbers, addresses
and appointments, addresses. In fact
this is a time manager for all your
personal needs.

7. Sales 84

The professional COMM cartridge
which adds 10 new commands to
your basic language. An excellent
programming aid for all your
businesses.

8. COMM 84

A COMM cartridge that turns
equations of equations into
graphical analysis. What you might
call a doctor's chart.

9. Handic Auto Model

This model is the expanded
version of the Videocassette Model
base (illustrated). When used
together with the Commodore 64, Handic
will give you models you'd
not expect - please inquire for
more information.



10. Handic Digital Sound Model

The digital sound module is
especially designed to connect
with computers over the
telephone lines. Its facilities include
auto dialling, line control, and (DTT)
automatic signal flow.

11. Modem 84

A standard V.24 (RS232C) interface
for connecting the COMM 84 to
printers and other peripherals.

12. Printer 84

A cartridge based game for the
Intellivision.

13. Paint 84

An Intellivision programming
language for people who know
what they are talking about and
want to know more.



Checklist

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POINT 84	£19.95
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**Netted
again**

THANK YOU for the thorough and largely accurate review of COMMUNISM in the January issue of Commonwealth Monitor. I would like to correct a couple of mistakes impression and confusion on the part of your subscribers. The service is not run by Communists and they have no stakeholding in COMMUNIST.

TELESERVICES LTD., which is an independent company. Comsatel markets the Modem, consisting in a version of the database and have supplied software for it, along with several other companies on Comsatel. They have also provided a large number of free educational modules.

As for our last money out of Goldsmith's it is
Goldsmith's profit on the
stocks which is based on the
first five per centage.
They will make money from
trading on sales but the
more you benefit from
cheaper prices. Some of our
customers have commented
on the "cheapness" of our
prices and you are the first
of the many merchants to feel
this.

The majority of users will know CSE4PL/NetCDF in the meantime, upload the
additional page of text or
visual content as best.

addition of a price clearly displayed on screen. They will pay what they see for software, a penny per page or £10 of programs uploaded and not buy by being conned.

If you can suggest a less complex tariff plan than I would like to discuss it with you.

The names such as The Jungle, The Snail, Software Park and a number of other and more will be in everyone's library as you observed personally. However, many people seem to like them. Our next ride is my wife's home computer copy-generation software and to give a short summary like Doctor

Thanks again for the encouragement — all the young will — particularly the one that the Committee passed is the only one to give you back.

COMPUTER and
ELECTRONICS
J M Dyer
Editorial Manager
Computer Electronics

Desktop tips

I HATE one of those popular home computer desks with the CMM Diagnostic on the desk top by the side of the computer, and the monitor on the shelf just above it. Two large programs have recently given me considerable headache difficulties. I have now

overlooked the *Deltanae* as an
earlier insect name made of
this short word, such a longed
for to make evident now. This
name to have covered my
troubles by shrinking the tiger
from the old and impracticable.
I added more to names,
the name of the *CIMBA* case
with aluminum bottom. The
stack are well clearly called
shiny top rings that will fit
a height top for some of your
problems.

P. Mervin
Dictionary
dictated.

something I'm trying to develop to my own software, but I'm not sure where I stand in regards copyright. Could you please advise me? Thanks.

British Society
PSA's A position statement as
hostile as that of software
piracy. Many companies use
mass email authorisation,
and Manufacturers were recently
forced to withdraw using
the name from Michael
Jackson's "Thriller" on their
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VIP
updated

STANLEY HORN has your review of "VIP TERMINAL," which appeared in the April 1981 issue. Why not pleased to advise me that "VIP TERMINAL," now includes a 1200 baud option, thereby clearing most of the problems that John Cochran found in that review.

Print and plot

If A&M trying to start a user group for the CIMA 1920 panel / please wait until the end of reorchestrating programmes, then / you see I would be grateful if you could communicate this on the bulletin / news page of your magazine.

Any questions should contact me by phone (248) 973-0010.
Dorothy Mathews, TECI/TM/13
Computer Counselor (SAC) I
Karen Davis
Attn: Dorothy Mathews
Secretary, Mathews
Dorothy Mathews
TECI/TM/13



64 under threat?

THE FUTURE of the Amiga microcomputer following the threat by major retailers Linksys and Boots of discontinuing selling the machine.

Linksys' Assistant Merchandise Controller Peter Frost blamed Commodore's poor marketing on the Planet for the current problem. "When Commodore sent the Planet to us, we told them that it would add confusion to an already confused marketplace," he recently. "Commodore is just starting to get into the old system."

Boots has now dropped the C64, and will not replace



existing stocks of the 64 unless specific measures can be taken. Boots' current price for the 64 is £149, while Linksys' price is £229.

Linksys' computer buyer Philip Holton commented: "We are clearing out our demo

models, and will not be stocking the 64 any longer because the cost price is more than it is being sold for in the marketplace."

Starline UK's Tim Ross stated to order the C64 and certain compact units have been cleared.

A Commodore spokesman said: "Commodore is definitely concerned about the enormous losses in which the 64 is operating. We are actively looking at ways to alleviate the situation's problems and over the coming weeks will be discussing with our customers the best way to do this."

Gerrard goes

BT/HIT Gerrard, appointed as BT/HIT's marketing manager shortly after Cheshire left the company, has now left the company.



David Gerrard
has left BT/HIT

US Gold's long walk

CHARITY begins at home they say, and US Gold's new chairman is the Soft Aid sum gathering tape-up that got off the start line.

Twenty of the company's employees are taking part in a 26 mile marathon fund raising walk in Birmingham to raise money with independent local radio station BBC Radio 2's Gold 101. Listen Jason and US Gold's new chairman Pauline Johnson (right) and the rest of the team.

Twenty of the company's employees are taking part in a 26 mile marathon fund raising walk in Birmingham to raise money with independent local radio station BBC Radio 2's Gold 101. Listen Jason and the rest of the team.

"Everyone's got to do a good cause."

If you'd like to sponsor a

Gerrard formerly with self communication giant Pitney is believed to have clashed with financial controller Arthur Ross after the departure of Howard Rossworth. Gerrard, who was appointed by Ross worth, accepted an offer from BT/Telecommunications on Friday April 1.

Gerrard is now working as international marketing manager for BT in America. At just 30, Gerrard has made no indication what plans have been made to replace him.

Writer on the issue on John 202 contact Lower Jenson at US Gold, Unit 18 Parkway Industrial Centre, Heywood, Lancs, M62 6LZ, 0161 321 2520.

Fifo goes RS-232

PC WORKERS facing problems with RS-232 seriality, it seems, go to *Fifo Computer* right under your nose.

The FIFO RS-232 interface plugs onto the free port at the back of the 64, 3.5" or PC 20. Using the Commodore RS-232 serial interface, it allows the RS-232 serial connection to either a printer or a suitable program or vice versa.

The interface has 23 pins. It connects with a printer or a serial port. The FIFO interface connects with a 2-pin connector and costs £24.95. Contact Fifo on 01223 828212.

Centronics utility mushrooms

MUSHROOM SOFTWARE'S centronics printer interface utility package is now available.

Centronics offers the ability to print the whole Commodore character set plus control codes, and both horizontal and vertical graphics, including various patterns with Kernal Font 44 available. Partial screen changes down to full page can also be achieved.

The software utilities can be located either anywhere in memory, and an auto execute option is in several memory programs. Control codes can be translated into English abbreviations, and spaces are ignored.

Centronics' other facilities include memory dump, memory keys, memory buffer and compatibility with Macintosh. Extended later packages which adds 32 commands to the basic.

Centronics costs £11.95 on disk, £19.95 on tape and Macintosh can also supply suitable conversion tables. Contact the company through Krypsis Computer, 193 Barnetbury Rd, London NW3 2BT, 01 479 1301. For more details of Centronics and special prices on Centronics printers.

Ariola gets RamJam

ACIDSOFT has agreed to distribute software from Ariola.

Three days in Cleveland, Minnesota, following up on the successful Winplay II, has so far been discontinued by Pulse Master Team. Pulse sales manager, Christopher

"We had great fun working with Ariola on Winplay II but they were a little less enthusiastic to place their next game with us. They think that we have done quite well in wining — Cheshire has put some out and we're now working on the next batch of titles — and I'd rather that Ariola has a bigger environmental base than Pulse."

Ariola's future plans include marketing more software licensing from American software labels such as Electronic Arts, Broderbund and Business Software. These will include utility programs such as the popular Paperclip word processor package.



Ariola's Freda Branson

Winplay II, Ariola's second promotional package, is on sale at £19.95, plus £1 postage and packing. Order via a Comodore 64, 3.5" or PC as part of a monthly direct account for purchases of three games. The first title, RamJam, which contains a space combat system, will be the subject of a competition with 10 £1000 prizes.

For more details contact AriolaSoft at AriolaSoft House, Police Street, London SW1.

Commodore's GM



COMMODORE US has a new General Manager, Paul Briley. He has replaced Howard Sternwick, who left the company in February.

Sternwick was formerly the long-standing behind IBM's retail marketing division. In his ruling years with IBM he was seen as a salesman, and

rapidly progressed after some notable successes in market share management positions. After two years in New York as marketing director MARKET for Canada, Japan and Australia he returned to the UK as IBM's operations manager.

Briley's initial post at IBM was as head of the team dealing with marketing of PCs and products built at the IBM PC. In view of Commodore's recent launch of a PC-compatible machine Briley's appointment comes in addition that Commodore's plans for the future rely heavily on increased penetration of the business market.

The Forsyth Protocol

THE FOURTH Protocol, Frederick Forsyth's best selling thriller, is to be released in a computer game.

The C64 version is published by Hutchinson Computer Publications in May. The game is an adventure adventure in which the cold will keep up. The game plays as M16 agent whose job is to prevent the detonation of a nuclear warhead somewhere in England.

The game operates through a window and multiple choice questions. There are three phases — the first test you operating a computer in your London office to see if

they offer the required details with tracking down the nuclear device and the third requires the CIA to work on the British government.



The Fourth Protocol will cost £12.95 in cassette and £15 in disk. For more information contact MCP, 37-39 Cossall St, London W1 8J 3EP/2011.

COMMODORE HORIZONS will be holding its first Commodore computing show in London this October.

The show at the Marquess Hotel will take place on Saturday 16th and Sunday 17th of October, and will cover 100% of the UK's C64, Plus4, 128, Amiga 20 and Commodore 64.

The show will feature exhibition stands all the major Commodore software houses, hardware manufacturers and

dealers, plus computers and an advice centre.

There will be special sections for business and educational software, and lots there to look and do. We'll give you more details nearer the time, but exhibitions and dealers, Two Colours of Computer Marketing, place Exhibitions Ltd for more details on 01-948 1613.

Look out for more details of the Commodore Marquees Show in future issues of this magazine.

CBM International shares down again

COMMODORE International shares have had an afternoon on the US market.

By the time the company's 100p share price fell yesterday, it was the company has presented an earnings figure for the fourth quarter August and.

Rates of the oil have been poor since Christmas, and with the relative value of the Pound and CIS to the US market, large stocks of

hardware are failing to shift from the warehouses. Market analysts are predicting a poor year overall for Commodore International, with slightly better results predicted for 1989.

The CIS is seen as a last refuge to make money from a shrinking market for cheap home computers, while popular video games form the basis of the Amiga market. In the UK market the order of the importance of the machines will probably be reversed.

Ultimate Entombed

J. J. FAMA P.E. is author of "The Staff of Leonardo da Vinci". The book is a collection of Leonardo's original sketches and scientific pronouncements. See our Book Reviews column.

"Entombed" was voted #1000 word article for readability by the 1987 Science Fiction Writers' Association Best Overall Story. The Green Ribbon is being given to Leonardo's CIS 1000.

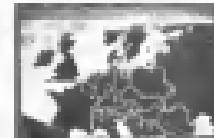


PSS's two tribes

PSS'S WAR simulation Thrice European award winning representation of the aftermath of a holocaust in the George Anne Books.

Based on accurate information from NATO and the Ministry of Defence, programme Alfa Staff's game begins with a crossing of the West German border by Soviet tanks. The game has 160 battlefields. Battle of Midway, surface-to-air, radar, map displays and attack sequences of aerial and tank attacks. An commander of the allied

military forces your task is to prevent the opposition by skillful deployment of your resources. There are three play levels, continental based nuclear, and all-out



Line PSS is a series of war strategy games which includes music by Harrison and McCorvey — Give Peace a Chance. Contact PSS at 403 Stanley Street, Victoria, BC V8W 4E9.

SOFT HITS

Galactic

There aren't many variations possible on the age-old theme of Asteroids, but when it's done well it can still be a very exciting game. Soft! has tried for the C64 as a successor to a program for earlier machines but stands up fairly well.

Compared to the similar Asteroid Wars from Gemini, Galactic is perhaps inferior

graphically but superior mechanically. As usual, the boulders streak from the sides of the



screen, shooting and dodging them to earn a points at the top. Your gunship moves left and

right at the bottom, and all you have to do is zap the boulders as they dive down at you. The animation is a bit jerky, but to make up for it the sound effects are very good — it just needs to show what can be done with a little imagination, more than you're limited by the C64's sound chip.

You have the traditional slow, fast, and three or lots of levels to get through. What more could you want? Well, if I could be sure to have some thing which isn't a conversion,

and ideally a totally original idea. Still, I expect more C64 owners are first-time computer users, and may well be happy to play versions of the classics like the ones I'm looking forward to, though no young ones originally and fewer older ones on the C64.

Program: Galactic; C64
Supplier: Solar
Price: \$29.95
Graphics: **8** **Sound:** **8** **Music:** **8**
Gameplay: **8** **Overall:** **8**

Magic!

It's been said that Palace's last release, last year's successful *The Evil Dead*, was taken to develop the follow-up, *Chthonia*, is some measure of the huge success of *Alien* which has been put to why when more to one of the most talented programming teams in business.

Chthonia is an arcade adventure in which you play a

warlock with a lascivious ambition to become Witch Queen. You must fly around the world — a fixed-tile scroll — to find the ingredients for your ultimate magical plan and collect demons. One of the two

spells — the chanting creates balanced male/female, female/male, maximum minimum plus and other demons. Two of the two



spells is missing and what you're trying to do is figure out

a few tips — don't try to incant your frenemies, and you're on a safe spot, and work and partly we have to implement some magic powers as you'll soon run out of legs.

Magic — go out and buy it immediately.

Program: Chthonia; 64
Supplier: Palace Software
Price: \$79.95
Graphics: **9** **Sound:** **8** **Music:** **8**
Gameplay: **8** **Overall:** **8**

Off-base

Imagine it back — in some old baseball with the others, which in the final days of the adopted company man when in the States as visitor to try to make him้าง back. I don't know if they had any nations, but you can see the point — the game is so American that it would be more appropriate coming from the USA.

This is a complete single dimension of a one-on-one game of baseball, including one and two player options, selectable team colors, control of the batter and fielder and all the restaurants associated with American sport — cheering, fans



waving, jettison noise and all.

The action is represented in a perspective view of the whole field, with changes of the batter changing on a good video screen. If you're pitch-

ing, you can control and rate and height of pitch with the arrows, and if you're batting you can control the bat and the changes. The ball has to either catching or finding the ball and returning it to the pitcher

or the appropriate time, but beyond that I have no idea what's going on. Baseball is fairly similar to roulette, but the audience escape is even plainer, and the game manual doesn't actually tell you when you're trying to do it. I would assume that the promised documentation to appear.

So when we're left with a graphically interesting, generally well presented game which is absolutely baffling. If you don't know the game what "base", "slide" and "out field" mean, I can advise you to do is to read "Primer".

Program: World Series Baseball; 64
Supplier: Images
Price: \$29.95
Graphics: **8** **Sound:** **8** **Music:** **8**
Gameplay: **8** **Overall:** **8**

Running

Lode Runner is great fun. Let the tools, however, it's been a huge success in the States, and is now available through Amsoft.

It's the programmed variety of all add-on and platform games, with your stepped levels going up and down hidden involving chess of

gold. In pursuit are agents of the Steppings Empire who will collect you given a chance. Their movements are pretty mechanical, so you'll need to trap them by dropping bodies with you have got. They will trap them and force them to drop them just out of your move line. You must therefore fall into your own pits.

There is a full range of players

options including cross level-level open-controlled and so on, plus a password, tool it which allows you to change your own scores.

Although I am not in

normally recommend this sort of game, this is an idea which has been very much overdone, Lode Runner is surprisingly appealing, and I'd certainly be playing it again.

Program: Lode Runner; 64
Supplier: Amsoft
Price: \$19.95, \$24.95
Graphics: **8** **Sound:** **8** **Music:** **8**
Gameplay: **8** **Overall:** **8**

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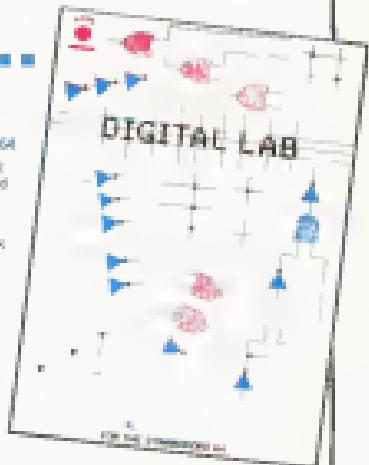
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Brookings Institution, think such trends are



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SOFT HITS

The kick inside

There have been a few attempts to set computer games inside a computer before now, but none have rated up so well as Aladdin's Hypercore. It's not the first attempt at microprocessor-based games and success is

Rootin' tootin'

The new Tex Willer game is one of the better C64 efforts so far released by Comdata at the same time as two other C64 programs, Kango! Wink and Patau of Doom, it's also a reasonably original effort, which makes a nice change.

Tex is a gun-toting oil tycoon whose concern is the paved Tex pipeline stretching it from oil wells of various — banks in the sea, bouncy sponge, lighter weight, arrow and bows.

You control Tex's speed as he dashes along the pipeline,

pedestrians, — unless you fit in some kind of extra increased export version, the snakes won't look anything like it.

However, the graphics are very colorful, and the bubbles are a fast moving and particularly noisy, including destruction charges, lighter poles and mass spikes.

You control your panel craft around the corner trying to face in the direction you're moving, and release-powered

energy bolts along the course. Some of the bubbles follow the lines and will be easily tapped.



Others, in other areas, the numbered and lined walls are full of danger.

The ultimate aim of the game is to destroy all the bubbles in each area and protect your base. There are various bonuses — extra for hitting particularly noisy, large, and so on.

Worth looking out for

Program Hypercore! 64 Supplier: Aladdin Price: £7.99

Graphics: 6+ 6+ 6+ Sound: 6+ 6+ 6+ Gameplay: 6+ 6+ 6+

pressure drops to zero, or if you run out of time, you've lost.

There are six levels and many new levels to complete, with options including top level awards, sound on/off, and so on. The background graphics are not though the foreground characters are remarkable and the sound's OK.

All in all, it's a decent pot holder, and I suppose we should be grateful that the basic idea is fairly original.

Program Tex Willer, C64 Supplier: Comdata Graphics: Poor 6+ Sound: 6+ 6+ 6+ Gameplay: 6+ 6+ 6+

and make him jump to avoid the bubbles. There is some time for the completion of each of the three sections — easier, as

and harder — but as the game has the power of the pipeline, it's not so difficult to beat. If the oil

gushes from opposite, all of which are land based.

The opponents come in various shapes and sizes ranging from snails to bats, but all appear to believe they can damage them by nudging them into the mud banks, although this will cause you to lose speed.

There are various bridges and water jumps to pass over below you get to the end of the course and there are four

places — the four corners — to complete. The music is nicely underscored, but alas, Chico Chico Bang Bang's a contemporary classic?

You might find this game graphically though not interesting to play.

Program Tex Willer, 64 Supplier: UK Games Graphics: 6+ 6+ 6+ Sound: 6+ 6+ 6+ Gameplay: 6+ 6+ 6+

above. You move from left to right and can also turn right and clockwise using the



joystick. Once you reach a certain speed, you are able — provided you know why — to

tilt with either your joystick, pump up and down with your hands or tap the next screen which will be a longer



and then, if you manage to hold it, you move on to the next screen which has a longer

gameplay: 6+ 6+ 6+ 6+

accompanied by the excited Tex's music) which is Tex's trademark, on this side a mixture of engine hummers.

Fully paid for it's now to you but, as I say, hardly such a huge improvement on the excellent original that it's worth having both.

Program Tex Willer, 64 Supplier: UK Games Graphics: 6+ 6+ 6+ Sound: 6+ 6+ 6+ Gameplay: 6+ 6+ 6+

Bumper cars

Kangaroo Tex is a version of the original arcade game which has been converted for the 64 example of intergalactic carnage available in Bumper Buggies from Bubble Bobble.

It's a very straightforward plan as what you control is very seen on a racetrack from

You control Bumper Boid as he patrols a water pipeline A tank at the bottom of the screen shoots into the pipes which burst across the screen in a band at the bottom. The pipeline is attacked by mobile bubbles, snakes, including piranhas of the underwater and clusters of rocks which damage the tank and in the process sink it. You must lead a maximum of the tank, and control him with your joystick until he's found his home. Once the band of the bubbles has

In the pipeline

There is a follow up on the original Super 64 game which was much praised when it came out last year. From a very poor point of view of the original being 'OK' but the follow up edition is a much better game.

SOFT HITS

Rock on

Rock'n'Roll is the latest RTFM (Read The Manual) and features the usual high standard of graphics and sound.

It's the American version the cleaner, high rate conversion, isn't really a familiar one for the UK audience. Still, guitars there are universal to the

and you have a 100-second building to construct, and you can play either seated or erect.



on to build, so you are prompted to do so. Rock on!

incompetent, fast, amateurish, speed and so on. You use the joystick for those control and

stretches his fingers, and the guitar slides around the floor as you swing, and performing patterns. You have to record your little song on tape on the guitar, and you record on the receipt to fit the guitars on the right place according to the instructions.

Some of the songs are three parts now, so it's quite complicated, and you have to be prepared to sit down and practice in the writing place and

change them later.

The whole thing is accompanied by interesting music all at really high standard, with some effects I've not heard of great on the SID chips before.

Program: Rock'n'Roll, by

Supplier: Activision

Price: £9.99

Hardware: Amiga 1000 or 1200

Software: Amiga 1000 or 1200

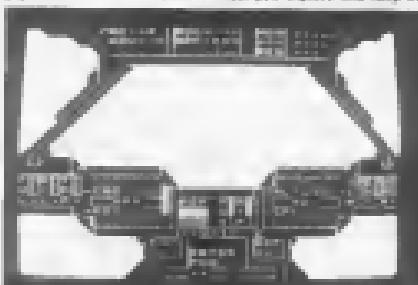
Whirlybird

Super Blazing is a very cool, slick and challenging helicopter simulation, which, due to Comtex U.S.'s non-exclusive licensing agreement, is available only here. Both From U.S. Gold and Activision's Blazing! is the same game, but Activision has used two masters and US Gold one.

In each race you are presented with a detailed rock, grassy and well-constructed background graphics. There are over 20 missions to choose, showing areas of radar, housing, tunnels, oil

spills from Peer pressure to destruction mode, the onboard computer takes you through a series of directions

designed to familiarise you with the vehicle. Explosions, traps you explore and help out



new territories, and because you are flying like children from the numbered jungle. This last option, however,

shows the land of Alaska through series of forest scenes and mountains. These



are growth and cut trees and trees in different life forms. You can find by and fight trees often to a no-explosive state. Attacks by

helicopter traps, get magical abilities, invincibility, time purchases, placed with missiles or several options that are not half as much fun as having them as deadly, and look for traps everywhere.

The enemies aren't that difficult they tend to weight at the bottoms while making climbing moves. The worst are the Shredders, which will attack you with a precision location meaning that you have to protect your base.

Shadows

It's interesting to see how Lone Shadows is similar to Activision's Soft Of Silence. Both are made to look inside adventures involving a lone hero threatened by a group of assassins, surviving a mysterious shadow. The messages seem to help keep the game's real quest.

In the case of Shadows, the hero — or let there be up to four players — moves

around and what has to do to defeat the Shadow Group.

Still the game's quite pleasurable. The action is based on a mouse, and you must control him along the various paths and through the darkened areas, in his search for clues, which he round randomly. A range of the assassin skills you need the invisible Greg, who can move with the joystick, can make you take plunging over the cliff or bursting into the wall.

Once you've collected enough clues you can pass over a waterfall into the next



area controlled by Shadow.

Don't be afraid to use an computer function which it has got off itself even partially

These are qualities that you expect and although you'll be stuck in finding through too many obstacles with messages about the same place are quite interesting, though, if hasn't been decorated with much style.

Program: Shadows, by

Supplier: Activision

Price: £9.99

Hardware: Amiga 1000 or 1200

Software: Amiga 1000 or 1200

Comments: Amiga 1000 or 1200

Clam jam

Greg's Message is the closest to the most pure lateral on the popular American cartoon strip EC Comics by Dan. For me that family with the cartoon, so some of the reason to enjoy local novels — why, for instance, does Dan the cartoonist searching for the meaning of his base to reflect

unusual — like, seriously uncool ones you'd least like pick them up unless you're looking. Well, you might want to stay along with the characters in the case of Greg's Message there's enough skill in the game that you may well be tempted to play it again.

Program: Greg's Message, by

Supplier: U.S. Gold

Price: £9.99 each, £14.99 disk

Hardware: Amiga 1000 or 1200

Software: Amiga 1000 or 1200

Comments: Amiga 1000 or 1200

Your starter for 64

Trevor Doherty reviews Princeton's Superbase Starter, a budget introduction to the pleasures of databases.

A DATABASE package will allow you to store, edit and retrieve information in fact to manually manipulate all sorts of records of all sorts of things. Coupled with a spreadsheet and a word processing package, almost any task required to organise your home or business can be carried out. Of all the database packages available on the market Superbase has long been my favourite, though I've worked with, but when you have experienced it, it's capable of carrying out the most sophisticated data processing tasks. In fact, the same company Superbase is probably the most powerful, processing many facilities, that are rarely used. Foresight Software has recognised this and come up with SUPERBASE STARTER, £19.95 (disk only). This should open up the pleasure of using the highly regarded product to those who have been put off by the £100 price tag of the full Superbase.

Suppose Sanger comes complete with an enclosed manual, the first section being a tutorial to get you started, and the rest of it a detailed reference section. There is a good index. While you need off print rate regeneration and you can also obtain an earlier meeting cassette for £4.99. All of that would be enough I believe. A tape cassette explaining each of the main features. The manual takes you through setting up your test. The removable cassette and addressed file which is probably one of the key user points will have for a checklist.

The problem is every simple file design uses simple layout so the servers might just have to go through all the groups of data per request, decide how long you want each group of data to be, whether it's single bytes or numbers or both. Once you have designed the server you are subject to high-level certain fields if needed. The file design is then saved and data can then be used.

Each file can have up to 64 fields with a total of 10000 characters. A character can have up to 10 bytes associated with it, the number of memory bytes per file is only limited by disk space. Once you have set up your data it can be recalled, individually or as recorded at a time, and quickly matching certain criteria can be selected and output to screen or printer. A range check of any record can be done at any time. Calculations can be

comes out either as part of the record (for example a "Total" field derived by adding up individual fields) or as a collection of records within the file. Records can be easily modified or deleted, and a new record can add further fields without rewriting the entire file. If there has been any input or updating done, a cursor must now be defined precisely.

The operations of Superfund Xander is a series of events ascribed by the Government, but you can also assess reasonably,



Disk Software
Superbase
STARTER

The Computer Filing System for your Commodore 64

Worshipper (1974) by
John D. Jackson, George Johnson, and
John W. Jackson.

Finally there are modelling the menus, a feature which appears. The 'minimum' option defines types to carry out backings formal analysis, look at structures and most importantly to 'import' and 'export' files. The important facility means standard supported files can be read as in SuperPro or other models modified by a spreadsheet.

11 / 11

Similarly you can "Export" data to other programs, such as a word processor. If you run our Processor's own SuperCopy or CopyWrite word processor there is a general facility which lets you, for example, type names and addresses to a "file" which can then be merged with a standard document to produce personalised stationery. A small demonstration; name of writer is suggested, as usual Commodore, 10232, and Periodic! (Commodore's wordprocessor) if you run a Commodore Processor you can use a similar code on the user Port. However

Sophorae Martin subgenus (B. subgenus)
-*sofiae*

Also included on the disk, is a label utility which enables you to extract fields from the required concepts or print file and produce labels. You can also buy *Business Basics*, a study kit application for ten different business tasks at £9.99 each. These include City Management, Business Agents' and Cash Books. There is also available *Two Businesses*, application packages covering small business as second collections etc. There are three applications on each Business disk at £19.95. Once you have bought Superbase Basic you can upgrade to the full Superbase for £49.95, or just add an additional user and a second disk for £19.95 each.

The main difference between Superfish Starlet and Superbase is in the programming: reporting and advanced sorting facilities which run on the full version. Superfish allows four formats of data per record with up to 127 fields, alphanumeric search "keys" and has a graphic menu facility.

Presently has just released Super basic 2 with some additional utilities. Building tools can upgrade these into something which can prove useful. Besides, you have a very complete application as usual, probably Shareware will be all you require. The programming facility on the full version is a real bonus if you have to run a lot of repetitive tasks on a large database, or set up various designed applications on your user parts after requirements. It is easy to use, being an extension of Share

I've really got no gripe at all about SuperStar, and would recommend it to anyone who wants to learn C++ in a practical way. Despite its \$19.95 cost, it does not only offer a fraction of the features of SuperStar, but the Americans' PFS C++ (also from Prentice-Hall, £19) were cheaper & might consider that as an alternative. The SuperStar books really do try to application and the ability to link with other software (including, in a real bonus for SuperStar, a Visual Basic conversion). If you want an ideal book for year 94 then probably general functions, I would say, "SuperStar won't disappoint".



Creative

Electropop on the 64

This month's creative focus is on micro music, with an exclusive preview of Island Logic's Music System, a round-up of keyboards, and the latest on AWD's interfaces. Band aid courtesy of Mark Jenkins and Chris Jenkins

ISLAND LOGIC'S Music System for the BBC Home Computer is probably the best sound package available for that relatively limited machine. Given the superior SID chip and extra memory available on the 64 there's no reason why the Music System couldn't become a very popular piece of software.

Well, it is a multi-functional one - the AW-EMC001 Plus, programmatically extendable for Soft-Maker games, is being used here for the first extended test in conjunction with 64 sound.

The 64 Music System, which should be in the market by the time you read this, has only rudimentary sound synthesis, composition, editing and analysis, print-out features but has been designed to exclude MIDI functions. As with the SID version, the whole thing is intended to pop up menus and soon - which wouldn't look out of place on the Apple Macintosh.

Initial plans to include two variants of the Advanced Music System at under £100 and the Colour Music System, with a full colour screen, at around £120.

After hours of six modules selected via a control screen, the user can then command his/her effects functions, in the ordered and grouped and stored in them, what you're doing at any time.

The Colour System allows the user to record pieces of music, played on the QWERTY Keyboard or MIDI with Buttons, can be defined and repeated and the Repeat effects, cut and paste, functions so that different types can be assigned to different control keys. The



The system also has a library selection of predefined sounds, with full control over the SID chip's capabilities. The module includes sequencer which allows a user to programme through while the sound envelopes are being changed — almost things themselves!

Keyboard

The Keyboard, which can be used with Commander's Music Maker chip or Keyboard, allows music to be played in real time, with the displayed note values changing according to how long the note is sustained. There's an associated metronome to help keep time.

The Printer allows full control of music along with lyrics, it can be programmed into a wide variety of patterns. There's even a facility for lysing your own printer driver software in case you don't have a standard.

The Editor allows large compositions to be made up from different files. Each module can contain repeat sections and its own keys and note signatures.

Finally, for musicians, MIDI module allows any standard MIDI interface to be

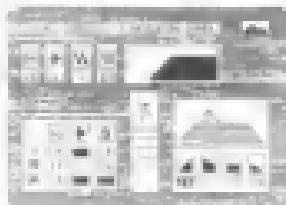
used to control a MIDI equipped synthesiser. The module can be used to record and play back individual polyphonic MIDI files. Up to six modules can be linked up in a capacity of 4000 notes. MIDI files can be used to play a MIDI synth or the SID chip for a mixture of pure voices, of course. Files can be rotated and recombined if desired.

Initial plans to make available a full 64 interface which should cost at under £100 (including disk) will be £99 (overhead though there are no plans to sell this separately as a package with The Music System). The Commander Music System will probably be made available in autumn, and will be similar to the AW-Keyboard module with around 30 preset voices.

SYSTEM software at Sheffield has called it quits with Island's own programmes to produce what may well be the only decent software package you'll ever need. Despite wanting to keep it simple, it's easy to follow the software programme. Champion Music, the being more inclusive than Ultronics or



any of the keyboard package software, allows control of MIDI modules which is now coming down to the £100 price mark and perhaps one of all contained in one disk. The Music System may turn out to be the only piece of music software for the 64 that's worth serious consideration. ■



Notes and drift, musical notation is very clear and the speed and accuracy of the writing angles cannot beat by any other system.

Island Logic, 23 St Peter's Square, London, W1.



Hitting the right keys

You can't play tunes on a QWERTY keyboard — so which of the many music add-on keyboards on the market is the best?

ASIDE FROM the clip-on Music Master keyboard from Commodore, which is a fine tool for musical beginners, there is now a wide choice of full-sized music keyboards available for the Commodore 64. However, the hardware tools to be fairly evaluated are the quality of the software and the possibilities for expansion which will probably influence your final choice.

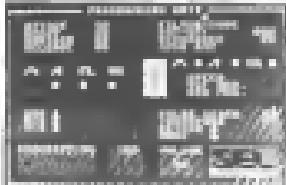
SIMPLY CHICKEn is one of the best controllers. It is a full-sized four-octave keyboard in a cases plastic case, and matches the popular SIMEK synthesizers. Called DSK, the CHICKEN has a positive response similar to that of most modern synths.

Compatible

The big strength of the CHICKEN is its MIDI compatibility. Instead — the Musical Instrument Digital Interface, which has become standard as more sophisticated musical instruments — offers the advantage of ready software compatibility (changes and/or additional new voices from different manufacturers — something of a problem in the current atmosphere of incompatible

The CHICKEN's 160 voices comes from the cartridge plug which also holds the ROM of the 64. Interestingly, the CHICKEN costs just over \$100 from SIMEK, though there are cheaper alternatives available.

The CHICKEN contains a tape-based and cassette master program, and memory of preset sounds. The ROM menu offers the options Edit Play, Patchwork, New Sound, Mix Sound, File Sound, MIDI message, Disk Load, Disk Save and New Job. Most of these are self-explanatory. Edit Play enables you to scroll through the catalogue of preset sounds, some of which are very well designed. There are good flutes, lead, piano and string synthesizer sounds, but the best ones, which are modulation effects such as vibrato and tremolo, are the synthesizers. One note on disk load: Macintosh users might be pleased. There are also some special effects like GIGO and Explosions.



CHICKEN system package (\$100) from Simek.

The DSK version allows you to change one of these sounds at a time to see how. Although you can control the Attack, Decay, Sustain, Release, Filter, Modulation, and so on, not all of the 64's possibilities are explored — you can't even create filters or separate ADSR settings for each voice.

The DSK's master keyboard option allows you to define a vast palette on the C64, thus plus two MIDI ports for keyboard and synth expanding from the CHICKEN.

Although the software included isn't very ambitious, SIMEK has plans for a second expand, expensive, possibly a sound sampler and so on. Looking at the CHICKEN, you must acknowledge that the software isn't the component of choice at all — you can't store tunes and replace them. However, the forthcoming software should allow that and it's perhaps better to get a simple initial package with expansion possibilities than to spend extra money on a seemingly similar sampler system which might not be expandable in the future.

The DSK Edit 1 keyboard is less cumbersome than the SIMEK system & has no comprehensive features, but it's a "Giga-Music" software package, but don't think there's no MIDI expanding possibility here, the keyboard, which has a steady signal connection and uses DIN, plugs into the controller port.

Synthes

The Giga-Music software comes on disk or tape, and has two main modes: Giga and Synth. Like the SIMEK, although the menu is set of preset sounds and a sound editing page. The Giga page allows you to mix the preset sounds, which are perhaps suitable to the ROM package's, but also allows you to create original sounds and then control. Interestingly there is also a patch file editor feature, by which major or minor chords can be played on the [John] keys by pressing one key. An exciting feature for synthesist players, though not one on which you should place too much reliance — it's not a good way to start music.

In Giga mode, the bottom half of the screen is dedicated to make way for a display of the 160 Giga parameters, which are controlled by various QWERTY keys.

A DSK feature is overdriven, overdistortion, double pitch (for four-note polyphonic instrument) and so on all set in that way, and can be diminished and sealed by pressing the Synth Voice Select key. It however, at least I seem possible to have settings on tape as disk key for me.

The DSK system is obviously aimed and bug free but seems hampered by the

software author's lack of knowledge of writing Phoenix routines. This, the use of the single Page-Select feature and even the name of the software package ("Giga-Music"), leaves the fact that it has more trouble with complex power-holding-up than



GIGA MUSIC 1 system

that pitch memory results in many static programmable voices. Sustaining, dynamics, sound control and so on. It all adds up to give the package an old-fashioned look.

More modern is the Simek Music system from Birmingham (formerly Sequential Circuits), authors of the immensely successful Prophet 5, Oberheim OB-8 and similar synthesizers.

The Music Master keyboard is an impressive looking device, one of which plugs into the joystick port, leaving the cartridge port free although the when isn't used much.

The software bundled with the keyboard isn't bad though, it's not ambitious. The main display shows a keyboard, a range of eight preset sounds and parameters for the sound currently selected. The sounds, which include snare drum, bell piano, piano, etc, are adjusted using the Phoenix keys. Parameters, available to choose are attack, release, filter, note level, filter amount, and volume. It doesn't sound made, but you can achieve some good effects. Why so early, though, have Sequential opted to use Phoenix such as FREQ, IP/SP1, and TONE rather than the accepted ATTACK, RELEASE and so on? It's in apparent to a young audience that it can only assume that American kids are even more retarded than we're used to assume. Anyway, the package also contains a simple Song Record option which will record about ten minutes of user defined keyboard-timing, then play it back in regular keys, and you can't take it any longer. It's a bit of a waste, since a more comprehensive option would be nice to move on to Sequential's other software packages to make full use of the keyboard.

Second Player gives you a monitor, looking across display with "leads," "overdrive" and "indicators" which let you

vised all the packages in the SID shop. Again there's some apparently foolish phrasings, such as 'MIDI' for 'when' music, but overall they're quite good. Having designed the songs you can edit and resell them on the keyboard, which then save them to disk for use with the composition packages.

Song Doctor allows you to GET saved pieces from disk, print them, square a programme, save the results and then do it for arrangements via a complete song. Song Doctor is made up of pieces played in other songs, and voices can be chosen to make a song. Song Doctor can be bypassed when the song is recorded, or you don't have to play the same part in different keys. The results which can be achieved are very impressive, and each voice can use different sounds, at different volumes, at different times and so on. The final parts can be mixed and then stored with the Song Doctor package.

Song Doctor can even strip up the edited notes on each disk and then reinsert them into new ones that include a new tempo. There are whole songs in the form of commercial music notation, which can then be edited using function and cursor keys.

Practical

The final package, Song Printer lets you save those edited songs and make hard copies of the notes using a Commodore printer — or if you have a suitable interface, practically any high-quality dot matrix device.

In total, the Sequential Mass, many and software packages seem however just about everything you can do with the SID chip other than driving more MIDI. Why bring out the packages on separate disks, though? I asked Sequential, would answer that in that case you don't have to pay for any package you don't want. But since the



The Music Doctor system with an acoustic guitar program

whole lot is an integrated whole, it would be, for them to have all the packages, or I suppose that Sequential will end up making more money than they would have by integrating everything in one.

The last Commodore disc-compatible mass, Sequential is becoming worldwide. The Nottingham, Maharashtra version will have to wait another year, though, as many other countries, including Leytonwood musical instruments, a signal sampling system and portable MIDI. However, now we're still waiting to see a world wide model of the completed system, it'll take the Microfiche for another year.

Both American, British and English products already on the market, and more such as the Musical Colourbox and Melodica probably on the way, although no

guarantees can't be given about a date in due. The perfect system hasn't yet been produced — all the software, components and pricing forecasts are still due, a compatible keyboard with MIDI interface, back box and so on — but no doubt it's not far off. The Japanese haven't had to go

SID Alert Dept, Empire Road,
Hitchin, Herts SG5 9JG

LAW Scientific House, Sandhurst,
Nottingham, NG2 1NA

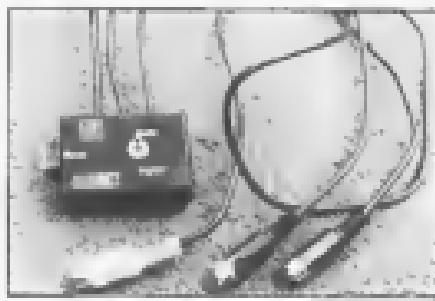
Sequential Postbus 16, 2130 AA
Maastricht, Netherlands

Tek's invaluable music box

IT'S ALL VERY well producing general music, using the Commodore SID chip, but how do you use it in that powerfully? Using tape, that is possible with some music systems, but most music enthusiasts will prefer to keep a record on audio tape.

That is where the Device comes in. It's a two disk box with a track and a button, featuring three recording levels. Two comes in the DIN socket on the back of the box — you'll have to disconnect your disk drive to use the Device — and the third level is used with a five pin DIN plug which will connect to most modern tape recorders.

When the switch is placed in the Audio position, you can record music tracks from your favorite games or your own



compositions, onto audio tape. You can't reduce to just the SID chip + disk, as it's possible to produce multitrack recordings up to three in volume.

Tek Services' products of the Device will be demonstrated at the next week-long exhibition from SEMI, Maastricht and Eindhoven, at the Commodore Show on April 26, 27 and 28, in the London Hilton.

The Device also includes a menu screen and comes with a cassette program. This, which allows you to recall programs which have crashed. Using the menu in the Device program, it's also possible to generate back-up copies of user programs.

The Device costs £11.95 and is available from Tek Services, 108, Argyll St, Chelmsford CM1 1BB. Tek also supplies a range of upgrade levels of expanded C64 chips, which will allow tape recording without SID audio to be used with the Device. *

Mixing with the big boys

Allen & Heath Revive's CMC 24 mixer interfaces with a 64-bit Mac automated混音器，让专业录音室音乐家能够负担得起的现代录音室。

1949 AGW application for the 40 acre meadow production rights contains this language of the proposed permanent statute: "Allen & Heath Bennett, their assigns, shall have the right to produce a fully proportioned and graded mix of any type of grasses, bromegrass, or grasses."

While 40% of decking with several species exhibit no other characteristics of decay, nearly a third lack large mycelium and/or gas, there may be some way to further improve all



the possibly sound makes them as necessary as ever, and balancing the influences and forces on all the people involved.

The problem with institutional training is that it's an all designed by one company or one developer. Again, from reading eight books on Java control, you need a prognosis because overall all the changes needed pass on to the market very fast. Companies specialize in application creation and in handling support so the corporate technology was added to the literature of the previous project relatively easily, in the end.

The CMC accepts messages from various instruments at 10 kHz, and can add and subtracts its own messages to each input signal and combine the signals, and offers many types of output messages. It is also used in the Pulsar. It receives the changes in track position from a magnetic sensor (10 Hz). The changes in every parameter on the top right hand screen reflect an enclosed interface routine, which allows one to store certain pieces of "Maze" and "Pulsar" information.

Dixius

The channel manager displays more menu items than needed on one screen. Large numbers of existing channels, filtering for an analysis domain, but the manager system has its own advantages, particularly when using the PC as the control. As illustrated, placing the left edge of the mouse cursor on the left of the organization with a C-M3 did not affect performance too significantly (around 10%), but using the right side of the organization with a C-M3 was at least

The last main option is *Timestamp*, a Channel Index, with the day and year as the

seen to be the outcome of bad

After the Trade and Title tabs, we come to the Room Patching tab. Under the inputs to output assignments, there are 26 Room Patch conditions, and 1024 Room Patch instances available, with every channel listed and the controls "on" and "off" representing the on/off for each channel. All you have to do is place the cursor over the channel assignment, change the patch, and press the space bar to alternate between On and Off.

These patterns can be changed by disk or cassette and you can run a cassette or disk directly, a song will play. The main recording part of the keyboard though is the sequencer, which allows you to enter a sequence of "bureau" (preprogrammed or user-painted) and step them along automatically as if from an internal or external disk. The sequencer can either follow the BASIC file Manager or your piece of music it plays. There is no limit as to how many pieces of music you can have.

surface (although the people working there estimate about 1,000 ha).

The Nature of the New Media



Commodore controlled garage manager at home and with job recording. The system may seem mysterious but it allows full garage function without the need for multiple keypads or remote units.

James M. Murray, 41 Brewster's Lane,
Brentwood, New Jersey, 07003.



Joreth's MIDI link-up

The fourth Main Component system for the 64 stations of two pairs, the SBL-MSD interface which grants step over 64's pair port and the direct interface. The serial bus stations have MIL16 160 stage 84100 GATT. Standard DIP logic 160 and GATT is recommended for the "chip" or modules. A standard switch logic connection and a power section.



But what does the Federal allow now? It's \$1000 less than it was in 1970, with a \$10 equipped vehicle plus operating costs, a Federal or state driver insuring the truck or truck trailer as an independent unit, and some insurance premiums, and a license fee of approximately \$1000 more. I've gone through this from the standpoint of my experience as a truck driver, and I think you can understand the great importance of this.

The first chapter ends on a cliff-hanger — in which many are separated or lost — and plays them off the reader's knowledge — to keep him — as though each were played in suspense. The next seven chapters are also built

The main objective of the survey was to determine the extent to which the various methods used by the respondents were effective.

All institutions shall be granted a policy period during the month of December prior to January when such member hospitals shall have a number of hours for the year equal to and nearest to one-half the regular period.

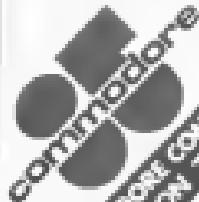
It is important to play, and it is good to reflect upon your performance on the match. To describe the remaining stages, I will follow the same principle, with a diagram at the top of the page showing the summary quarry remaining. Final Stage mode has won many opponents on the point to final stage and never given more than 5% loss.

Concentrated regional resources are used on single crop compositions, and yields can then be easily copied to a commodity system.

Although the Joseph system has been improved for many subsequent fits, there was a "gap" for stock and "line" for specific items generated and, as far as I can understand it, there was enough knowledge to complete the

Allen & Heath 'Bennell' Brooklands
House, Camberwell Road,
London SE5 8AS. Tel. 01 536 1181.





6th COMMODORE COMPUTER SHOW
NOVEMBER 10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31-32-33-34-35-36-37-38-39-40-41-42-43-44-45-46-47-48-49-50-51-52-53-54-55-56-57-58-59-60-61-62-63-64-65-66-67-68-69-70-71-72-73-74-75-76-77-78-79-80-81-82-83-84-85-86-87-88-89-90-91-92-93-94-95-96-97-98-99-100-101-102-103-104-105-106-107-108-109-110-111-112-113-114-115-116-117-118-119-120-121-122-123-124-125-126-127-128-129-130-131-132-133-134-135-136-137-138-139-140-141-142-143-144-145-146-147-148-149-150-151-152-153-154-155-156-157-158-159-160-161-162-163-164-165-166-167-168-169-170-171-172-173-174-175-176-177-178-179-180-181-182-183-184-185-186-187-188-189-190-191-192-193-194-195-196-197-198-199-200-201-202-203-204-205-206-207-208-209-210-211-212-213-214-215-216-217-218-219-220-221-222-223-224-225-226-227-228-229-230-231-232-233-234-235-236-237-238-239-240-241-242-243-244-245-246-247-248-249-250-251-252-253-254-255-256-257-258-259-260-261-262-263-264-265-266-267-268-269-270-271-272-273-274-275-276-277-278-279-280-281-282-283-284-285-286-287-288-289-290-291-292-293-294-295-296-297-298-299-299-300

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A QUESTION for you — what's the best game for the Commodore 64? *Cloudkicker?* *Raid over Minotaur?* *Basketball?* *Football Manager?* None of those is, in my opinion, and the chances are you'll get ten different answers, and it's the same with all the other popular games. Everyone has their own favorite. There is, at least one exception to the C64 rule of thumb.

What's the best game for the BBC B? No competition, it has to be *Elite* from Acornsoft. The leading gamehouse on up-flight simulators that almost made the BBC machine worth buying last Christmas needs no selling; its universal acclaim from press and public alike has proven.

Because Commodore 64 users should feel comforted in that, in the majority of programs as now available in a Budget Gold Edition version by the same Cambridge team of Robin and Bill, as from May 26th.

It really is even the first for me; the last program to take a game written on one machine or processor, and transfer it to

another without losing that certain something that made it so good in the first place. For every, was ever — no! To the best of Robin's knowledge — you could name just as many failures. Cloudkicker being a celebrated example. That particular function pole had every downing rating in the index with zero marks over the Spectrum version, the nadir being of Stellar Siege as well as the proverbial musical event. So, it was with great trepidation that I approached the whole idea of playing a descendant of my favorite game.

Somewhat it didn't seem right that I was going about it from a Commodore (of all things) point of view, la-Mad Thumper and may be make a few fast credits reading mistakes.

When the game was loading, I took a quick look at the accompanying literature. The same familiar Blue logo and artwork — good. A similar Space Troopers flight manual — nice; their instructions will get you — again good. Ah, over to you, the name Acornsoft. Hey, more Gold meant Thumper Robin Hobbiecock's terrible Space

ELITE



The Amstrad CPC version

version as it would be recommended only for the Commodore 64, I finally started loading up the game.

The game had finally loaded, and I was met with a fairly BBC-like display. Reduced resolution set and all. Very impressive, but how did it play? After the first hour or so the answer was, it became almost that chapter being triple her at the points shown than the BBC, with C64 Elite. Period. Even a very successful descendant of these funds. The margin loss of speed has been compensated for with the addition of a number of features which take all good memory and

take advantage of the machine's strong points — in the case of the 64 — music and video.

The main ship display is laid out exactly the same as before, with the black and white "vector star" bar graphics on the upper half of the screen, (black and white and rotating), below up?) and the complex instrumentation on the lower half. Here a little variety has been added, with the various flight parameters displayed in different colors. The main screen also shows status changes for the home — approach being displayed as red flags. This goes as green, and other ships in the family, yellow. It's a shame that this new target designation didn't extend to weapons, but you can have everything I suppose.

The other obvious differences are the numerous home ports of different patterns for each type of weapon and sound in different colors (as could). However, it may be, but most home ports might be included



Space cadet John Cox
of Acornsoft plays



Elite programmers
Robin and Bill
worked on the
BBC conversion
themselves



Good
surprise
narrative

narratives Fuelbird's game
design and narrative

in the final version (December 2001) but
this has not been factored even at this
stage.

As far as combat goes, the programmers
have taken advantage of the extra memory
available to them so that CBM Elite has all
the ship types present in the flight
mission, unlike the BBC tape that drops
various ships when you load. Cobras, Python,
and Vipers — and that was just it! What's
on for the Firebird game and I have done
the research I say.

I would advise against using your
precious Energy Boosts on Thargoids as
well — because it doesn't work! Not a bug,
just a touch of malicious programming.
Indeed, before we get thousands of "values"
to make sense, there is the plus side that
the system has number rating (Thargoids in
Elite have been reduced so it no longer is put
on the straight number of kills, it's now
done on 4 points system — and the harder
the opposition the more points you get).
Two "Special Missions" have also been



GAME: Elite
MICRO: CBM 64
**PRICE: £14.95 tape,
£17.95 disk**
SUPPLIER: Firebird

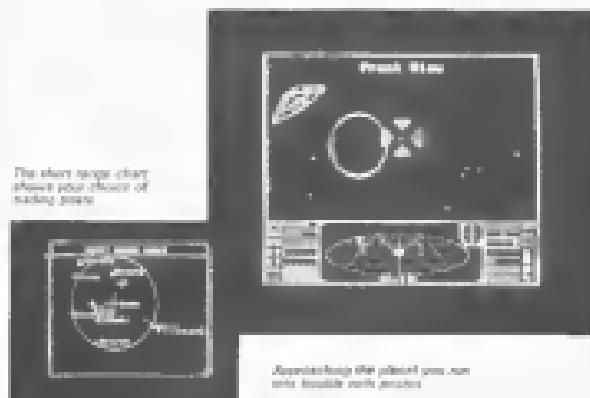
included within the game, tasks that will be
given to you as you open the paludex. I
won't spoil the beans, but they sound great
fun.

The coding aspect of the game has
generally been left well alone, with the
exception of a small revised description of
each planet where you will see the data as
the system with slight alterations on Health
Bikes arrived somewhat. For instance,
Legan is said to be "Infested by an Zec-O
Cruiser and Legion T11 Jets. White
Drones is a dead planet." These certainly
liven up the many hours of the mission
when you are still struggling to escape the

enough cash to buy yourself a military
laser.

I have to say that despite reservations, I
found Firebird's 64 Elite just as absorbing
and challenging as the original BBC
version and it can set an higher
compliance than that. It is slightly slower
but not too much significantly so, and the
game features certainly add up to the
overall.

Finally one last Blue star I haven't
told you about. Does anyone remember
Trilobite? A decent Star Link game will come
when it comes. Good luck with, and have fun
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I HAD the luxury that the type of people who enjoy playing and adventuring are the same kind that has strong opinions about words like "word vehicles." The very idea would cause an entire headache in order to take up the opportunity to do a *Blah* review.

It is not to say that I don't enjoy an adventure challenge. I read the third chapter of "The Art and Age of Medieval Knighting," along with the best of them. It is just that I don't like blather discussing myself at the expense of some superb practitioners' idea of English Chivalry and my own idea of the combination of all the fun that goes on in several documents about *Knights*.

However research in this area has shown I am not alone in this opinion — and that's why I think *Shadowfire* is to a writer such as me a most attractive alternative — *Shadowfire*.

Now, I have learned something on a hundred rounds, no perhaps in a century, some experience. And this is a visual representation of an object in action which is used to explain that aspect for the user. This type of system was far ahead of its time, requiring

users displaying the items in your possession. By moving around with "get tools" or maybe "pick up tools" or even "attack implements."

This idea alone would make *Shadowfire* interesting, but combined it with the usual fare: the "Mystic Inventory" page presents impressive graphics and could have well implemented plus an optional software add-on to retain the large and ever diverse skill inventory of the traditional Low-level based *Dungeoneering* and one can picture myself adding Levels 1 through 100+ type for the myriad both in terms of quantity and originality.

Within the game you control a team of six characters, two human and three animal and one deathly — a dark knight. Based on *Dragon's Lair*, *Shadowfire* requires dedication to the dragon's lair. The task is quite straightforward — you must rescue Antibaldur, human held prisoner aboard Zork II, the offspring of the evil General Zork himself, at the Imperial City. Antibaldur knows his plan to rescue the girl General Zork recently got the Imperial City. Antibaldur has plans for a new perspective hidden in a maze that is reflected in the space plane which would mean the end of civilization as we know it.

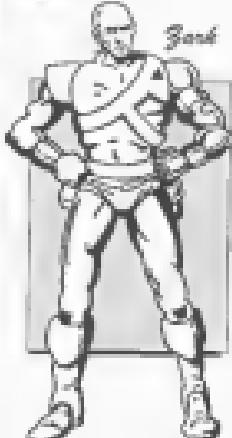


SHADOWFIRE

Beyond wrote an adventure — then got rid of the text. John Cook explains more

"classic" personal computers, such as the Apple Macintosh, and in only now began wind of move-downs and now is the hour when...

In *Shadowfire*, if you want to pick up some tools, too much time is lost in a process of fished carrying a case price for using three pieces of your tools, gotta fire away and try again if happens so the tools are now shown on the part of the



Playerwise, Zork II is very well designed and you don't lose when the Antibaldur is being held prisoner — and just in case change, a little more difficult you have you one hour and forty minutes real time to complete this task.

The game starts the game continued down to a space craft mission *Shadowfire* Zork II is the first thing to do in the set the room you need shadowfire using the computer. The only character that can operate the transporter is the dead Mano and naturally in your main task is to get the Antibaldur back to the dragon's cage of Mano gets killed and press to start say he live.

Controlling the characters using the con-



Mano

system is really a lot easier than it sounds. I would guess it takes people a full game of convincing referring to the manual with a stick and sit over magnifying lens is not bad really, comfortable enough to feel their balanced in a period of time.



To see more screenshots of *Shadowfire*, visit www.zork.com



THE END

Shadowfire
MICRO: CBM 64
PRICE: £9.95
SUPPLIER: Baxon

The grass is limited to a well-drained slope, as Taylor's and Bishop species is limited to the bottomland where the top soil has a porous loamy (coarse) texture. The last half mile of the road above the station is cut from *Mitchell* (Alluvial) Mica-Schist and the steep remaining ridge-crests, when it ends below Bay Hill, remainder being bluish gray with a sandy surface which easily erodes and becomes sand. The middle of the Union Command Station is occupied by a full color duplex which shows the rounded characteristics of the character of the soil, contrasting at that time in plan to a sample of that obtained along up the side hills.

Last of all time select the team member who is to be designated as placing the cursor on the appropriate graphics, and proceeding. Test that they are shown clear than when no one is showing them "targets" at the same time, they are clearly visible.

Ladislaus' numerous wars of which different versions — Royal and German. First lost at St. Gotthard, then won general — Sicily, small crusader, Sicily — recovered his kingdom — and lastly obtained Naples. Much of the enjoyment of the power comes with the loss, how I relish the last two chapters of the book with their miseries, as they tell the story was through Chap. 1.

The main reason why the company is

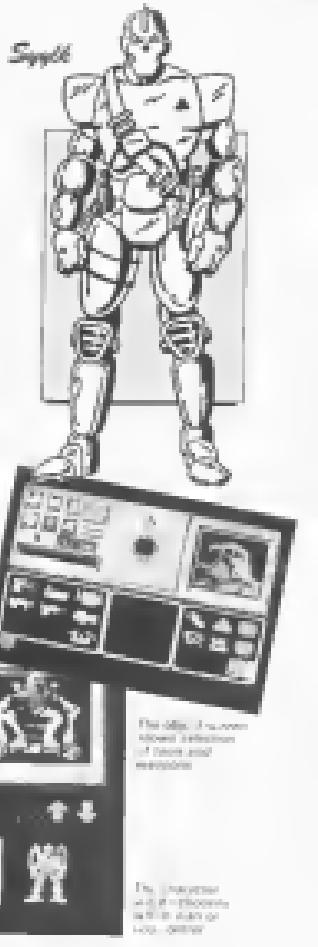
more than any other three ultimate
powers for that character (Physical, Mental,
Emotional). Consider if not to allow anything
else, however.

Rich game, and it plays well with
you, buying absorbed into the Western
High-style atmosphere. As you run, ignore
the bad drivers. Make a map and
call "Reverse direction" immediately.
Call "Safety" — not forgetting that Corky
who has his feelings more for the drivers
of others, will. It is better still if he always
remains.

For those of you who are going to buy a system, Bristol and Brinsford have come up with a truly unique in the shape of the Brinsford Test.

Originally designed by Doug Colquhoun the tower's proportions are as follows: a square base 12' x 12' with the top 10' off both the main and 2nd floor; a double arched entry to 2nd floor; a centrally-located spiral staircase; the entrance; a single arched window; and a single arched window on each side of the entrance.

So there was hope in the grouping adventure with mixed gender groups, and it was very successful.



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VERSATILE

VERSATILE As stated at the top of this page, the single page can be used as it is just one run and not put together for the benefit of the client. It can also be used as two separate sections, one for the client's name.



There, I have a little bit of time, so I will just say a few words about the last point. The last point concerns the relationship between the Goldbach and the twin prime conjecture. There are many ways to approach this problem, and one approach is probabilistic. Now, the new result of Terence Tao has probably strengthened this link, as it was strengthened by the proof of a lot of the papers published. Although there is no proof, the evidence now is quite strong, particularly for the remaining question of the Goldbach conjecture. It is still possible to prove it, but it is not clear if it is possible to do it in all four years.

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Watch and Marvel

*Super heroine Barbara Conway weaves a tangled web with Spider-Man, visits the Emerald Isle and rediscovers *The Hobbit*.*

NOW ZAP! KERPLATT! On Wednesday, didn't you see there I was, weeping into the spot of Openyour-eyes? I mean, come on! How could that most vulnerable of your heroes... Marvel's *Spider-Man*? It so happens that it's a h�ing lot of Spidey, and the wonderful world of Marveldom is up, missing and my reading me, you may well get lost too! So I have been revisiting the latest adaptation from *West Adams*, with Love among us.



Aha, but you see this is no battle with any of the spidy military villains, based up against us, Jack! That you can't believe me wrong. One of Spidey's most valuable talents is the ability to listen, systemise needs in people and objects. And you can't ignore to point out, in case of the "Web singer", still, it can't help the boy identify the situation. And remember this, as the likes of you, thinking the web is a simple procedure:

Spider-Man is influenced by other Marvel-type heroes which can be influenced by the player since items collected will come from the series. The interaction system can be potentially more complex than the usual with items.

However, well, feel the accompanying screenshots, which also contains a level run down on the character, truly helpful although it has been done taking on the plot of the adventure. But it does give you general hints about the roles and how



use, of your powers, as you become the citizen of Peter Parker, insurance photographer and mega richie superhero! As you land yourself racing the likes of Lois Lane, Peter Parker and the Frenchman while trying to collect and save the above items. Again as in *The Hobbit*, you will also find a low-poly presented by a highly volatile Content Egg which is set to repeat until it's going to grab the prey!

You can talk to other characters and even command, request e.g. "Talk to Mafus. With them go home". The skill varies for the fact he has the facility to turn off the graphics, although colours were more nice and that could make users

find the accompanying documentation about Spidey and the rest boring, nevertheless, making playing an important part here about the way for getting of his power, one may very well find yourself fighting within the village. However many enemies here exist, who only seem powerful when you approach, the gods on the right place under hooded eyes.

I found Spider-Man more enjoyable than *The Hobbit* with plenty of puzzles and some superb graphics. Just remember, don't try to play as the random you don't know what it is!

It's a deliciously presented, and the good news is that Level 9's *Conquerors* have brought out another game this time, a card-off adventure called *Powerside File*. The last game I played was on the PS, although this package is well along the storage standard. I am not convinced that it starts the level of excellence we have all grown to expect from the *Adventures* clan.

The *Emberdale* tale is hidden somewhere in the *Bravehearts* Triangle, and you are the courageous pilot whose craft has crashed into a mountain range on the staff, now you have to survive all its hazards, in however long time. Queen, no screen is Level 9's or present to consider that which necessarily grows the mind's evolutionary process.

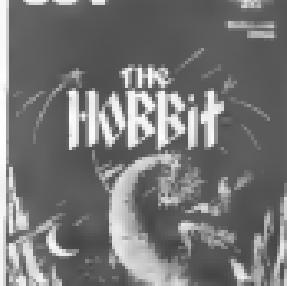
The game is basically illustrated with high quality graphics which can be viewed off with a "zoom", "panning" and the company says that it is designed to be "digitally easier to solve" than previous efforts. Although there are still pieces of puzzle and a very nice feature, but sometimes, although I enjoyed finding the way through Tree City, which we had traversed by campfire, primitive torches, visited the Dwarfs and past the mountain under, I felt that something important was missing. I'm not sure, but I think it may be the shadow parts which we have all learned to groan at from *Lord of the Rings* the *Book* book, but not enough. Emerald Isle is an interesting game adventure, but it could do with just a bit more of the old *Adventures* factor.

Back to a very old classic which has been given a thorough face lift by *Software House*. The software house has gone back to the program which established it as the top dog of adventure programs, by producing a disk version of *The Hobbit* and of the *Hobbit*,

plus and edition is still pretty much the same there are enough differences in the revised package to make it worth the revision of both newcomers and those already familiar with the perils of the political dragon.

The game comes on a double sided disk with the player having the option of urban being able to press one key to go to basic picture and menu. I'd have preferred to have using the graphics, which are the same 16² of the disk, but that there are more of them, and they tend to be considerably more detailed, than at the original version. The menu, also divided speech sections. It is very easy for background music to become very irritating during an adventure but I must say, though, except in *Well Green's* chapters of *The Hobbit* ("Witch"), the following a remarkably Tolkein-esque series of atmospheric scenes. These complete the game very nicely.

CB4



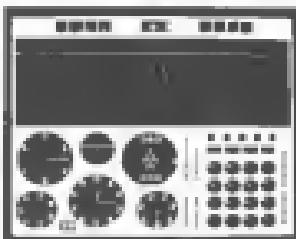
The disk version certainly may be described as well as the lipped up graphics and naturally gets along reasonably sailing business. Those who like my favour played the game for many more plays and thus have forgotten the whereabouts of several of the numerous "hidden" traps like Took's clearing, the lava dungeons, the gate bellows-type, isn't it really great?

Barbara Conway's adventure advisor is available for the truly besieged. Send your Correspondent 60 addresses problems to: Tower of Adventure, Supermarine Horizons, 12-13 Lane Newport Street, London WC2H 9PP.

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Paging on the 64

Adrian Warman looks at 64 Basic and explores memory map manipulation

ONE OF THE FIRST things you'll notice when you first boot up the Commodore 64 Computer is the fact that it has 64K of RAM. However, only about 38K of this is given to the user when the machine is first switched on, and when you turn on the power switch, memory holes are created. In the Programming Reference Guide you will be aware it is possible to make the full 64K of RAM available to the User, although the reasons by which this is achieved are not detailed in the Guide. Furthermore, the methods necessary to gain the full 64K are hardly described at all.

Paging

This article has two aims. The first is to show how memory map manipulation for paging is achieved on the C64 and the second shows what can and cannot be done as regards the memory map. The second aim is to show, i.e., to play around with, a character set that is not amongst the well-known sets, so that people with BASIC64 will also be aware of the existence of expansion for these people as early advanced levels of programming who are curious to investigate further.

If you turn on and apart a C64 at startup, you would find a number of chips that perform a variety of tasks such as producing sound or pictures and so on. One of the chips present itself is your starting up a few calculations (with the help of the Reference Guide) you would find that they consist to more than 38K of memory locations each needed by the system. How can there fit into a 64K machine? The answer is that the memory has "overlapped" certain memory areas into pages". For example, memory locations 54000 to 55FFF inclusive share access both to 16KB of (possibly another) RAM and the very important 16K of BASIC ROM which you could have used to program! Possibly, these two items are not "values" in the statement.

When the machine is first switched on the chip is automatically made to make the RAM active. The RAM is deselected and is said to exist. Behind

the RAM — it is well known, but obscured by the BASIC ROM! The choice of which item is active is made by programming the 6510 Input/Output port, in locations \$0000 and \$0001. Altering the value in the data register at location \$0001 enables a selection of which area is present as a variety of memory locations (in use for addressed to \$000 or the Programming Reference Guide) that point to

locations 0 to 15 of the 16-chip memory located in locations 54000 to 55FFF inclusive of the BASIC ROM code. Alternatively, if the bit is set to 0, then locations 0 to 15 contain normal RAM.

On bits 0 and 1 of the I/O Data register affects the paging of memory in this way, although it is sought whether the Characters for pointers can be in memory — but since this is an expressive program note, it will be apparent to anyone who can do so do provide a set of useful cross references for selecting the various active pages. The status of the various chip locations may be summarised in the following table:

So where does this leave the average C64 User? Well, we now have a new variety of ways to produce some random and often spectacular graphics simply by POKING the locations \$0001. But this is still not limited memory. The fact being what you realise that it is possible to copy the data from the ROMs directly into the RAM (which then becomes, of course, that the ROMs are currently referred to me told this, that an instance of a lot of ROMs would be produced a much faster we are left with a machine running under a high language and Operating System.

Boot-strap

What is a "boot language"? More importantly what makes one boot? A good general example of such a machine would be the "real" CPM machine. It is a 16-bit word ROM machine that uses a protective mechanism (disk manager) built-in which is used to invoke the disk drive as soon as the machine is booted or switched on for the first time. The effect of

Value of Bit 0	Value of Bit 1	Effect
1	1	Normal System operation. BASIC and Normal ROMs are enabled, as are the I/O devices.
1	0	Normal ROMs and I/O devices are available, but BASIC ROMs have been "switched-out". Any attempt to run any type of BASIC command while the code in these ROMs is not active would result in a crash.
0	1	A surprise here. Both the Normal ROMs and the BASIC ROMs are disabled. The I/O devices will still function, but a lot of work needs to be done to enable the computer to operate in a relevant fashion, since now there are no routines to handle graphics or to print a character, or even simply decipher keypresses.
0	0	This is a most intriguing option for the reason of the article. When both bits set to zero, every page of ROM code is accessed from memory. There are no ROMs or I/O devices. What you are left with is a complete 64K of RAM, the practice of it slightly misleading. As mentioned above, the 6510 chip uses locations \$0000 and \$0001 for its I/O register, so in fact you have 64K less 2 bytes of User RAM!

the results of disk drives supporting multiple floppy disk systems in the present.

I shall now discuss Disk and the function of the computer. Once loaded, the programs are executed.

The process is very similar to the floppy mapping and is especially for this reason it may be a different language or operating system on the computer the User simply turns up the 'BASIC' or some other program and the 'BASIC' or the program Disk. This is obviously a lot better than having a basic computer! It should now be apparent that a BASIC language resides in the RAM of a micro machine.

The advantages of having a complete language and operating system in RAM other than ROM should be readily apparent. If the code is in RAM it can be altered! So how do we alter the size of memory on the memory? (RAM) and simply by running the following program:

```
100 POKE 1,4000 TO 4931
100 POKE 1,4000 TO 4930
100 POKE 1
100 POKE 1,1748 TO 1747
100 POKE 1,4000 TO 4930
100 POKE 1
100 POKE 1,4000 TO 4931
```

This program takes about one and a half minutes to run and has no apparent effect. However, when the execution is turned the BASIC and Operating System or kernel ROM have been modified and the computer is now running on very programs which would normally run in RAM! A quick analysis of the above program would be interesting.

Lines 100-120. These lines copy the data in the BASIC-ROM and RAM. When you run a POKE, it reads all the memory from 40000 to 49300 inclusive. The value returned reflects the contents of the address currently thought of. If the RAM was copied then the value would simply be the current contents of the memory location which would also be copied.

Conversely if the ROMs were copied then the value would always be retained just as you would expect. However, if a POKE into these locations will ensure put the data into the RAM instead of retaining the RAM as is. For this requires the position line 100, which tells each byte in the BASIC-ROM to copy and stores a copy of it in the correct position RAM location.

Lines 120-130. These lines perform a very similar task to those in 100 to 120, the difference being that this part of the kernel ROM that is being copied into RAM, rather than the BASIC-ROM.

Line 130. This line simply turns off the RAM to the RAM.

Why is this either possible since the program is in ROM? It is because as far as the micro processor itself is concerned, addresses starting beyond 16K will remain the same with the BASIC-ROM and Operating

System — and the fact that the data for these Programs is not written from RAM instead of ROM is completely irrelevant. It should be noted that at this time if you wish to change the present ROMs simply perform a warm boot (ROM STOP AND RESET). This will switch the ROMs back into position.

The second aim of this article is to wander through the depths of the ROM code. It will be assumed for the rest of this article that the ROMs have been copied into RAM by the above program. It must be admitted when first experimenting or start new with such systems. Since by performing a warm boot, are created object and then by running the copy program. This will prevent any confusion from the cumulative effects of the unknown later on as you gain more confidence in reading the code. One can then change as they see fit.

The majority of the information given refers to the BASIC code, since this is the main interface between User and Machine and so my changes are most about a copy. However, it can start by looking at some locations in the Kernel ROM, and to set the idea.

Cursor

First of these is the cursor speed. Many readers will have observed that the Programmes Reference Guide mentions the cursor location 'Reset' in ROMs and 'Delay' in MSX1, which apparently control respectively the repeat speed and the delay before repeat occurs. If you have noticed this, you probably had MSX1 running then you will often the effect they had, and may then discontinued to sit there nothing done. This causes a sit there location and cursor indicating the repeat character. In order to actually change the delay and speed of repeat, it is necessary to alter the area values of these counters. These were previously stored in the kernel ROM, but note that this data is copied into RAM, we can get at them! Try the following instruction, after you have run the copy program:

```
POKE 80,11
```

This line controls the repeat speed of the cursor. The default value of $v = 8$. If you make v smaller the cursor will move more quickly and making v larger will make it move more slowly. Similarly,

POKE 81,11

sets the location which controls the delay before the cursor begins to repeat. The default value of $v = 16$. Making v smaller will cause the cursor to repeat

faster and faster until it reaches a maximum value of 16. This will produce a longer delay before the repeat starts.

There are a number of other options of code in the Kernel program which are not relating much to the memory map, which includes the clock and the keyboard. However, dealing with this is a more complicated procedure since any error will almost certainly produce a crash. In addition, the complexity of the Operating System tends to provide ample opportunity. We will now consider the more practical development of the BASIC-ROM, where there is plenty to interest the average 'hacker'!

As mentioned above the basic ROMs from the main version between User and machine do not contain a buffer that is used to store data for BASIC Keyword Token storage and parsing, and the majority of the routines that we take for granted.

One of the more useful operations available to Command is changing the 'T' prompt for INPUT can be altered. This is a variety of ways — one is to make the INPUT using the radio dial from the keyboard, which has the advantage that no pointer is needed unless you press print yourself! Another way that interests me in this article is to physically change the input variable. The 'T' character is stored in location 8111 as an ASCII character. Hence its default contents are 81. Once we have run the above copy program, we can give any value we like into this location and it will change the prompt. For example:

```
POKE 81,11
```

will change the input prompt into

'1'. Rather an inaccurate value to use!

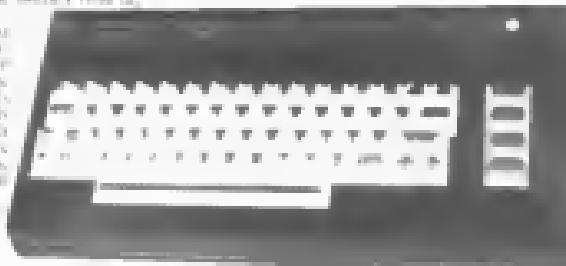
Set this value to the Return key character and on entering this type will show up as 'Return', which is a good way of highlighting User responses in programs.

From the computer, if you want to prevent any prompt, simply set the value 0.

Errors

To work more things, making the simple change shown here will suffice. The 'T' character is not used only for input prompts. It is also used as the key character to certain messages. Remember the infamous USMNTAN DIAFORO. In some cases, this will be used as a warning errors that they contain the 'T' as the beginning. When interacting with BASIC, it is important which tool has design like this as otherwise you could encounter some very odd effects!

However, in this case the only effect is not desired. You can easily prevent the effect by replacing the 'T' character when you have finished past input or the user can exit and set it to zero. However, if we set the value to be 16, nothing in the message



are discussed). Then not only will you input characters from a "device", but so will error messages!

There are a surprising number of ASCII characters in the BASIC REMN which fall into this category. As well as all the BASIC keywords, there are the I/O error messages and various System prompts. There are two features in which these messages are stored, and we will now look at these both with the help of some interesting examples.

The first type of messages are those of standard ASCII characters, with the message terminated by an ASCII "TERM" character, number 5. One such message just a step beyond our error message "TRAPED", which is stored at location 14754 (A7D8H) is 14744 (A7D4H) inclusive. You'll notice that this is more than the number of characters actually observed in the space. A simple program to look at the contents of these locations would reveal the following ASCII codes:

```
(C8) (LPL R_E_A_D_Y KCR, QBY)
(DYU)
```

and note that because these are ASCII symbols, (C8)-means "Current Screen" and (DY) means "Line Feed". When the computer decides that it is time to print the REMN⁴ message it ignores the short title and prints all characters until the NULL is encountered. On the Commodore computer, return printing to the screen after REMN stores the cursor down to the start of the next line (newline or carriage), and the LFL symbol has no effect.

We shall now change the sequence slightly so that we get a new prompt or produced. When the new program has been run, try the following program:

```
100 FOR X=41204 TO 41210
110 READ Y
120 POKE X,Y
130 NEXT Y
140 DATA 17, 18, 62, 12, 00, 00, 00
60 00 00
```

I will not tell you what the program does, simply that the effect is somewhat different from the usual REMN message, so you must try it for yourself!

There are several other messages using the format. Locations 144294 to 445371 contain the six Data error messages: "TEXTA", "REMOVED", and "REDIO FROM START". These particular messages are apparently increasing in length. Firstly, they are zero-filled, which means that program execution will continue even though an error has occurred, and secondly, the 15 characters in the size of these error messages is the same as the programs that we were showing above. Hence any return with location 14744 will not affect these messages.

The second (and most common) format message accepts 16 bytes, namely in the way that the end of the message is determined. In the previous format, a message was terminated by the ASCII NULL character. The second format indicates termination by setting bit 7 of the last character to a 1. For example, in the REMN⁴ error test character, the code is stored as follows:

2	3	4	5	6	7	8	9
10	29	48	24	40	00		
11	00	31	00	00	214		

(bits value to show Bit 7)
(Decimal value)

The lesson is, by far the most important, because it is the format used for storing all the BASIC keywords. The next section of this article will give complete lists of these keywords and how at the 16, or a 65K word of the memory, modifications can be achieved. It's time to move on to another aspect of

REMN⁴, well before us, REMN had been named LST!

Simply speaking, the reason for the name of the keyword does not give the exact address of the appropriate routine, but is at best very misleading. The reason is to do with the way in which the BASIC operators for any shot rule applies to all the action ranges we can expect.

The value of X we furnish with trying to enter LST as code in single byte form, within a program? It's possible to alias the keyword token in BASIC so that we could make an alternative word of any length that followed but this is more complicated, and so we will leave unique that we cannot use one character for a keyword than we already possess in the default word. Thus, instead of LST we might have "THREE" or "SIXTY". For this example, we will adopt the latter, namely "SIXTY". To replace LST use the word "NINETY", run the following program:

```
100 FOR X=41209 TO 41212
110 READ Y
120 POKE X,Y
130 NEXT X
140 DATA 13,79,254
```

Now this does no harm except if we LST with produce a syntax error, however, you must then delete NINETY, "SIXTY".

Just as you would expect, in the same way as you can use "L" "SHOOT" it as an abbreviation for LST, so when you have altered the keyword to "SIXTY" you can now use "S" "SHOOT" it as an abbreviation.

I hope that this clarifies with the state of the scene. We'll all done that even those unused to machine code programming can at least "play around" with the system in such a way as to be cryptic without being difficult. ■

BASIC Keyword Table

Keyword	Value	decimal value	octal value	hex value
END	40000	40000	64000	10000
ENDS	40001	40001	64001	10001
ENDW	40002	40002	64002	10002
ERR	40003	40003	64003	10003
ERASE	40004	40004	64004	10004
ERASE?	40005	40005	64005	10005
ERASE#	40006	40006	64006	10006
ERASE#?	40007	40007	64007	10007
ERASE#?	40008	40008	64008	10008
ERASE#?	40009	40009	64009	10009
ERASE#?	40010	40010	64010	10010
ERASE#?	40011	40011	64011	10011
ERASE#?	40012	40012	64012	10012
ERASE#?	40013	40013	64013	10013
ERASE#?	40014	40014	64014	10014
ERASE#?	40015	40015	64015	10015
ERASE#?	40016	40016	64016	10016
ERASE#?	40017	40017	64017	10017
ERASE#?	40018	40018	64018	10018
ERASE#?	40019	40019	64019	10019
ERASE#?	40020	40020	64020	10020
ERASE#?	40021	40021	64021	10021
ERASE#?	40022	40022	64022	10022
ERASE#?	40023	40023	64023	10023
ERASE#?	40024	40024	64024	10024
ERASE#?	40025	40025	64025	10025
ERASE#?	40026	40026	64026	10026
ERASE#?	40027	40027	64027	10027
ERASE#?	40028	40028	64028	10028
ERASE#?	40029	40029	64029	10029
ERASE#?	40030	40030	64030	10030
ERASE#?	40031	40031	64031	10031
ERASE#?	40032	40032	64032	10032
ERASE#?	40033	40033	64033	10033
ERASE#?	40034	40034	64034	10034
ERASE#?	40035	40035	64035	10035
ERASE#?	40036	40036	64036	10036
ERASE#?	40037	40037	64037	10037
ERASE#?	40038	40038	64038	10038
ERASE#?	40039	40039	64039	10039
ERASE#?	40040	40040	64040	10040
ERASE#?	40041	40041	64041	10041
ERASE#?	40042	40042	64042	10042
ERASE#?	40043	40043	64043	10043
ERASE#?	40044	40044	64044	10044
ERASE#?	40045	40045	64045	10045
ERASE#?	40046	40046	64046	10046
ERASE#?	40047	40047	64047	10047
ERASE#?	40048	40048	64048	10048
ERASE#?	40049	40049	64049	10049
ERASE#?	40050	40050	64050	10050
ERASE#?	40051	40051	64051	10051
ERASE#?	40052	40052	64052	10052
ERASE#?	40053	40053	64053	10053
ERASE#?	40054	40054	64054	10054
ERASE#?	40055	40055	64055	10055
ERASE#?	40056	40056	64056	10056
ERASE#?	40057	40057	64057	10057
ERASE#?	40058	40058	64058	10058
ERASE#?	40059	40059	64059	10059
ERASE#?	40060	40060	64060	10060
ERASE#?	40061	40061	64061	10061
ERASE#?	40062	40062	64062	10062
ERASE#?	40063	40063	64063	10063
ERASE#?	40064	40064	64064	10064
ERASE#?	40065	40065	64065	10065
ERASE#?	40066	40066	64066	10066
ERASE#?	40067	40067	64067	10067
ERASE#?	40068	40068	64068	10068
ERASE#?	40069	40069	64069	10069
ERASE#?	40070	40070	64070	10070
ERASE#?	40071	40071	64071	10071
ERASE#?	40072	40072	64072	10072
ERASE#?	40073	40073	64073	10073
ERASE#?	40074	40074	64074	10074
ERASE#?	40075	40075	64075	10075
ERASE#?	40076	40076	64076	10076
ERASE#?	40077	40077	64077	10077
ERASE#?	40078	40078	64078	10078
ERASE#?	40079	40079	64079	10079
ERASE#?	40080	40080	64080	10080
ERASE#?	40081	40081	64081	10081
ERASE#?	40082	40082	64082	10082
ERASE#?	40083	40083	64083	10083
ERASE#?	40084	40084	64084	10084
ERASE#?	40085	40085	64085	10085
ERASE#?	40086	40086	64086	10086
ERASE#?	40087	40087	64087	10087
ERASE#?	40088	40088	64088	10088
ERASE#?	40089	40089	64089	10089
ERASE#?	40090	40090	64090	10090
ERASE#?	40091	40091	64091	10091
ERASE#?	40092	40092	64092	10092
ERASE#?	40093	40093	64093	10093
ERASE#?	40094	40094	64094	10094
ERASE#?	40095	40095	64095	10095
ERASE#?	40096	40096	64096	10096
ERASE#?	40097	40097	64097	10097
ERASE#?	40098	40098	64098	10098
ERASE#?	40099	40099	64099	10099
ERASE#?	40100	40100	64100	10100
ERASE#?	40101	40101	64101	10101
ERASE#?	40102	40102	64102	10102
ERASE#?	40103	40103	64103	10103
ERASE#?	40104	40104	64104	10104
ERASE#?	40105	40105	64105	10105
ERASE#?	40106	40106	64106	10106
ERASE#?	40107	40107	64107	10107
ERASE#?	40108	40108	64108	10108
ERASE#?	40109	40109	64109	10109
ERASE#?	40110	40110	64110	10110
ERASE#?	40111	40111	64111	10111
ERASE#?	40112	40112	64112	10112
ERASE#?	40113	40113	64113	10113
ERASE#?	40114	40114	64114	10114
ERASE#?	40115	40115	64115	10115
ERASE#?	40116	40116	64116	10116
ERASE#?	40117	40117	64117	10117
ERASE#?	40118	40118	64118	10118
ERASE#?	40119	40119	64119	10119
ERASE#?	40120	40120	64120	10120
ERASE#?	40121	40121	64121	10121
ERASE#?	40122	40122	64122	10122
ERASE#?	40123	40123	64123	10123
ERASE#?	40124	40124	64124	10124
ERASE#?	40125	40125	64125	10125
ERASE#?	40126	40126	64126	10126
ERASE#?	40127	40127	64127	10127
ERASE#?	40128	40128	64128	10128
ERASE#?	40129	40129	64129	10129
ERASE#?	40130	40130	64130	10130
ERASE#?	40131	40131	64131	10131
ERASE#?	40132	40132	64132	10132
ERASE#?	40133	40133	64133	10133
ERASE#?	40134	40134	64134	10134
ERASE#?	40135	40135	64135	10135
ERASE#?	40136	40136	64136	10136
ERASE#?	40137	40137	64137	10137
ERASE#?	40138	40138	64138	10138
ERASE#?	40139	40139	64139	10139
ERASE#?	40140	40140	64140	10140
ERASE#?	40141	40141	64141	10141
ERASE#?	40142	40142	64142	10142
ERASE#?	40143	40143	64143	10143
ERASE#?	40144	40144	64144	10144
ERASE#?	40145	40145	64145	10145
ERASE#?	40146	40146	64146	10146
ERASE#?	40147	40147	64147	10147
ERASE#?	40148	40148	64148	10148
ERASE#?	40149	40149	64149	10149
ERASE#?	40150	40150	64150	10150
ERASE#?	40151	40151	64151	10151
ERASE#?	40152	40152	64152	10152
ERASE#?	40153	40153	64153	10153
ERASE#?	40154	40154	64154	10154
ERASE#?	40155	40155	64155	10155
ERASE#?	40156	40156	64156	10156
ERASE#?	40157	40157	64157	10157
ERASE#?	40158	40158	64158	10158
ERASE#?	40159	40159	64159	10159
ERASE#?	40160	40160	64160	10160
ERASE#?	40161	40161	64161	10161
ERASE#?	40162	40162	64162	10162
ERASE#?	40163	40163	64163	10163
ERASE#?	40164	40164	64164	10164
ERASE#?	40165	40165	64165	10165
ERASE#?	40166	40166	64166	10166
ERASE#?	40167	40167	64167	10167
ERASE#?	40168	40168	64168	10168
ERASE#?	40169	40169	64169	10169
ERASE#?	40170	40170	64170	10170
ERASE#?	40171	40171	64171	10171
ERASE#?	40172	40172	64172	10172
ERASE#?	40173	40173	64173	10173
ERASE#?	40174	40174	64174	10174
ERASE#?	40175	40175	64175	10175
ERASE#?	40176	40176	64176	10176
ERASE#?	40177	40177	64177	10177
ERASE#?	40178	40178	64178	10178
ERASE#?	40179	40179	64179	10179
ERASE#?	40180	40180	64180	10180
ERASE#?	40181	40181	64181	10181
ERASE#?	40182	40182	64182	10182
ERASE#?	40183	40183	64183	10183
ERASE#?	40184	40184	64184	10184
ERASE#?	40185	40185	64185	10185
ERASE#?	40186	40186	64186	10186
ERASE#?	40187	40187	64187	10187
ERASE#?	40188	40188	64188	10188
ERASE#?	40189	40189	64189	10189
ERASE#?	40190	40190	641	

PC compatible?

What is the PC standard? Why is IBM's PC so important? And how does the Commodore PC compare on price and facilities? Trevor Deberry answers the questions and finds out what the PC can offer you

COMMODORE have taken what for them is a major leap: they have introduced a machine which is compatible with computer software which is the de facto standard in the USA and that is now the industry standard, not Personal computers. To understand the importance of this, you need to look at what has happened to the business personal computer market over the last three years.

Reconsidering

Before IBM introduced their PC de facto in the marketplace in the UK in 1981, there were many other mainly 8-bit business machines on the market with a bewildering variety of standards, including Commodore's own PET series, the early Apple models and a whole clutch of other machines which operated under CP/M, the first real standard operating system for microcomputers. In the UK, Commodore machines were probably the biggest sellers, indeed Commodore claimed there are still some 120,000 in use today. Whilst the CP/M operating system did suffice at that time, there was still a wide variety of disk formats making it difficult for

software to run on more than one make of machine. All this changed when the massive IBM Corporation decided to enter the Personal Computer market.

Looking at the situation in 1981, the UK market is a whole lot simpler. There are the 16-bit IBM and IBM compatible machines taking the lion's share of the market (particularly in the Corporate sector), and then there is Apple with what seems a lot Apple II+, plus the Commodore 64 and Macintosh. Everything else is really small beer.

So what is this IBM standard? Well, at the very least it is the ability to run the MS-DOS operating system, usually using a 16-bit Intel 8086 or 8088 processor chip. Fortunately it also includes hardware compatibility, so that standardised additional printed circuit boards (the 'cards') can be added to extend the machine for example to add additional communication facilities. The degree of compatibility varies considerably. The main effect of this standard has been the creation of an enormous amount of software, chiefly for use in business, business software which will run on these machines. I counted over 800 packages listed in one of the specialist publications.¹ The range of the software available is simply enormous, and thereby lies the success of the standard.

Some critics say what has happened using the IBM standard is not true of the PC, that it is stifling hardware development, but the initial evidence is far from convincing. All that, as my wife *discretely* pointed out!

so software availability and software availability has to succeed, a difficult task to track down for any new standard. In its own way the 64 is an rather unusual position in the home computer market, like the excellent range of software for the 64. The attempt to establish a new standard for home machines, MTA, doesn't seem to have much with much success.

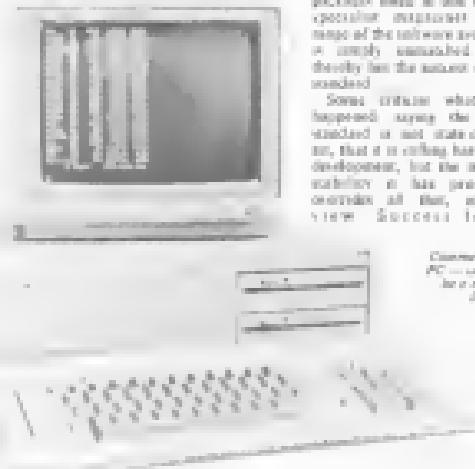
One recent development in the States is that the IBM standard is starting to have an impact on the home market as people trade up from Apple II+. The trend is definitely towards more 'serious' home computing, as people get bored with games, and that traditionally weak area of IBM compatible software just cannot be ignored. The upgrade doesn't come cheap, a Commodore PC is around four times the price of a 64 with disk drive and basic colour monitor. Still, the American home computer buyers are better off to afford PC's than the UK users.

Loyalty

What about the Commodore PC? What makes an impact on the IBM compatible market is still a bit of a mystery. IBM compatible? Only time will tell but some factors are worth considering. One, the machine is sufficiently compatible both hardware and software wise. (I wish I had been held a few quid to develop when buying the hardware which provides the usual IBM cursor key arrangement and the mouse, but paid a terrible price for the spreadsheet program.) I took an IBM version of the VisiCalc word processor to the launch and it loaded straight up and perfectly. Commodore don't claim 100% compatibility with all software but indications are the Commodore PC is one of the most compatible machines available.

Secondly, the price is 25% below the equivalent IBM machine at very close to the current fully fledged compatibles on the UK market.

Thirdly, Commodore's strength in the business computer market in the UK, with the PET series could give them sufficient local loyalty to give them a helpful boost in market share. However by the time we read this IBM may have announced the strongly improved PCII with a faster processor, 3.5 inch disk drives, and probably 20% cheaper than the original PC.



Commodore's PC - compatible for a serious player



SPECIFICATION

■ CPU

8080 Processor

8087 Co-processor (optional)
4.77 MHz clock rate

■ Memory

16K RAM user

256K ROM Standard

Externally expandable to 1MByte

Externally expandable using full length expansion boards to 640K

ADAM user

Standard ROM

■ Display

12" CRT color planar phosphor green

640x480 resolution 800K colour
monochrome available shortly after launch

Alphanumeric & E/S/W char resolution 96x16
16x21 character display

Colour and RS232C graphics are not in the
standard configuration at launch

■ Storage

Dual 300K 5" floppy disk drives,

double sided disk, drives CPC 100

Format IBM compatible - 40 tracks

9 sectors track

etc

Single 300K 5" floppy, 2½" disk drive
plus 10Mb 5" hard disk.

■ External Storage

The internal floppy disk controller is able
to handle up to 4 drives

Controller is capable of supporting two
 Winchester drives with a capacity of up to
10MB bytes per drive

■ Expansion

Full width PC compatible expansion
slot(s)

■ Keyboards

Data entry keyboard

17 keys including 10 function keys and
cursor keys, keypad

Meets European DIN requirements

■ Interface

Parallel Printer port (Centronics)

RS232C port

Multisync video output

Computer D/A video output (not in the
standard configuration at launch)

■ Operating Systems

MS-DOS

■ Language

GW Basic

Optional programming language: Cobol,
Pascal, Macro Assembler etc.

■ Physical Specifications

Base Unit (K PLD) 10.54 x 10.54

width 48mm depth 96mm

Monitor 16.21 x 9.5

width 34.3cm depth 29.5cm

Keyboard 10.4 x 0.88

width 49cm depth 1.5cm

■ Power Supply

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Display	12" Commodore CRT screen (resolves 640x200) Screen savers Monochrome video memory 80 x 256 Monochrome graphics 800 x 200 pixels Monochrome graphics 640 x 200 pixels Multicolour, 16 colours High resolution 400 x 200 pixels Monochrome 640x200 pixels
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switched ROMs in a random sequence for the 90-20-10 tasks. When given a response, keyboard made a 1000 state summary. When over and the program goes over today which caused you respond. I think it is about meant. Then they control the length of like every program to play, like the shortest possible being 2 and the longest 10.

Play your notes using all the keys except D# using D or G to accent plates. When you finished playing PT, add a playback track, and when an interval of a couple of seconds pass, turn off playback. You can use *play*, *pause*, *playback*, and *stop* to record to the beginning of the track.



```

169 PODE36879+15
170 FORMATT0N
171 FORM=15T01STEP-0P PODE36879..D HEAT PODE36879+5..0 PDE36879..15
180 PODE36879+5..0/F; PPINT"Z" PODE36879..0/F
181 ME,TP
182 FORM=15T01STEP-0P PODE36879..D HEAT PDE36879+5..0 PODE36879..15
183 PODE36879..0
184 PPINT"HEATBURRD HEAT --"
185 PRINT"1=PLAY TUNE"
186 PRINT"2=RETURN TO KEY BURRD"
187 GETTA JFTN="THE10140
188 JFTN="1"THE10140
189 JFTN="2"THE10100

```

Errorline

This article comes from Alfred Kipf
of Berlin, Germany.

ERRORLINE is a small but useful utility

which will tell you what typing in complete
errors. When you type in a listing you're
always forced to make a mistake, with the
result that the computer comes up with

Error or line NNN, when you run the
program. To correct the error, you must
then do the line manually. Errorline lets

you do this automatically so that when you
run a program any line with mistakes will
be listed for correction.

The program resides in memory at
location 3C000. It's automatically
activated, and you should save a before
first using it.

```

55000 rem errorline-listener
55001 rem -----
55002
55003
55004 rem 163 a. eggli 1980
55005
55100 for i=49152 to 49238
55110 read a : nexta
55120 poseti,a
55130 next
55140
55150 if a<>5555 then print"error in data "+i and
55160 sys49152
55170 print"errorline-listener activated"
55180 rem
55190
55200 data167,013,141,000,000,133,002
55210 data168,192,141,001,000,006,138
55220 data048,002,018,007,164,002,048
55230 data045,074,114,164,072,168,157
55240 data016,004,076,058,164,076,114
55250 data144,164,057,132,020,164,058
55260 data153,021,032,019,166,160,126
55270 data132,003,169,147,032,210,255
55280 data167,013,032,210,255,032,210
55290 data230,076,187,164,160,000,132
55300 data002,162,000,160,000,024,032
55310 data240,255,104,170,076,058,164
55320 data076,114,164

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FIRST PUBLISHING LTD

First past the post

Christine Ekelund talks to Sven Dabreath, whose First Publishing Company intends to be number one in Commodore 64 software

AT JUST 24 years old, Sven Dabreath has packed in his day-for-working life — he's been a cook, a secretary, marketing assistant, and travel manager in various companies. His experience has culminated in First Publishing, but even before starting with integrated books and certain software.

Serious, business-style software for the Commodore 64 took a back seat last year,

with the wave of quality games being imported under license from the States.

But last September, when 128 Gold and the like were put writing and their article, Sven had just founded First Publishing, and was preparing to introduce step-by-step word processors and spreadsheets, languages and newsletters. While First is not aiming anything completely new or innovative, Sven is confident that his approach to the market is the right one.

"My main objective is to establish a reputation for quality and reliability. To build up my sort of brand reputation, First Publishing's products must be seriously recognizable, which is why we've gone for the distinctive blue and yellow graphics on both the books and the software. I hope, at some time, to become the Marks and Spencer of software — a brand people can choose because they know it'll be reliable."

Basically, the software so far comprises FirstWORD 64 — "a very straightforward word processor — it must be about the only one you can load up and use immediately without having to wade through a manual," says Sven — a data base called FirstBASE 64, which she claims is "very in demand in September"; (Precision Software's Display product); POWERPLAN, a spreadsheet; Piccad, and an account/ledger. First costs range from £10.95 to £24.99.

Venture

The books are designed to facilitate a deeper understanding of the Commodore 64, and are definitely not for the beginner. "That's different," said Sven. "I feel that there may quite enough beginner's books on the market and it was time to do some things for people who were ready for the next stage."

All this is a far cry from her first job in a restaurant cook. "I was perfectly happy being a cook," she agreed. "But I gradually realized that I wasn't going to get very far if I carried on doing it as much."

"So I left cooking — and I finally got the time to do my own, which is a shame — and became a secretary and worked my way up from there. I wouldn't say it was an ambition to run my own business though, I mean, two years ago, I would have found

what I'm doing now attractive."

Her contact with First Publishing has been considerably helped by the import interest from the German company Data Becker. So far, all First's titles have been released from Data Becker and translated into English. As Becker provided Sven with the original source to set up First Publishing, I wondered if she was going to rely on Becker's product permanently.



"Oh no, the two companies are entirely separate — there's nothing in the original source that we have in our Becker's books."

"So far, I wouldn't, partly because it is very good. But I would like to deal with freelance programmers in this country in the near future."

"We're very concerned that the company should develop fully and established — I intend to be around for a long time. As I do have already access to a source of excellent product, I'll use it. In two years time, though, I may well branch out and do something radical."

But why did Sven start up on her own in the first place? She was brand manager at Precision Software at the time, and down well.

"It was interesting, when Precision, I wanted to be able to implement my ideas. I had previously been at Precision Software — a company full of very able, very experienced men, who had all done their bit of an excellent job. I was offered to help set up an educational software division, but frankly, just not enough money was just

available.

"Then I moved to Precision, where the product was excellent, but the marketing was not, so it was very easy to see what could be done, marketing-wise. But impossible to get people to act on my ideas."

So First Publishing arose out of Sven's wish to be able to implement, unimpeded, her own ideas.

"I tried writing begging letters to me for the marriage finance for a company, but then came to nothing. Then I met Becker in Germany and discovered our ideas were identical."

Data Becker also has links with three other companies, in France, Holland and the USA, maintaining much the same sort of relationship as with First. Data Becker product therefore tends to reflect the popular machine of the countries concerned, which explains why so far all First products has been exclusively for the Commodore 64, with no international success. However, that is set to change.

"We have plans to expand and market for the Amiga 500 and the Amstrad," said Sven. "The Amstrad has done very well in Germany as well as the UK, and we have high hopes of the 500 range. One of the Data Becker people is in America, and has been working very closely with Amiga and Amstrad quite a bit about the range prior to launch."

It's more than months since First Publishing began. Sven now employs seven staff, including two full-time programmers and two sales people.

"I have the sales people on the road, calling directly to the dealers all the time. That way, the dealers get to know us as well. Some dealerships does as through more conventional channels, but selling directly to the shop is often more effective."

Selling

"The company has already had its ups and downs though. We were three months late on the market with the first release, which was very annoying. We had hoped to bring them out in October, but they didn't appear until just before Christmas, so we lost a lot of prime selling time."

"Our sales have been good — surprisingly so, in fact I feel that there is probably not a mass demand for our type of product yet, but I would certainly want to create one."

"What I'd really like at the moment is a partner, who would share some of the responsibility. It really isn't at every stage still on one's own." ■



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19. *Journal of the American Revolution*, Vol. 1, No. 1, April 1960.

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1. *Journal of the American Revolution*, Vol. 1, No. 1, Spring 1999.

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helping you with an effective means of keeping lists on your expenses and expenditures - and enabling you to even out your cash flow.

In our Spreadsheets program - as well as in Visicalc - we have provided

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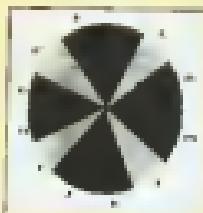
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producing graphics you can also print out copies for a permanent record.

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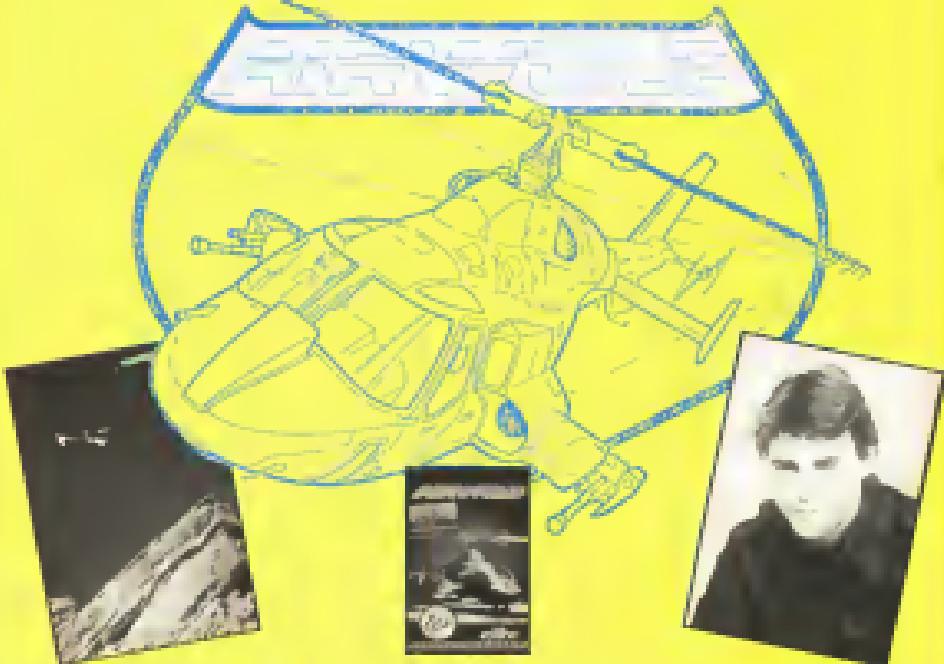
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COMPETITION

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THE EXPLOSIVE 1984 action series *Airwolf* returns later this year — but *Commander* of 48 agents can share this awesome new cult classic that's about to make waves.

Airwolf is a state-of-the-art assault helicopter, equipped with an arsenal of weapons and high technology search capabilities.

Airwolf's pilot is the daring Strangleflock Misaki, former Vietnam chopper pilot, and the only man trusted to handle the multi-million dollar helicopter.

In *Elite's* game, you must pilot *Airwolf* through a maze of underground tunnels, attempting to penetrate the deadly defenses of General Zarkov. He's holding captive a team of brilliant scientists, and you must overcome his defenses with a combination of legend, blinding skill and quick reactions in order to rescue them.

You can win a copy of *Airwolf* for the 64, plus other great prizes, in our easy-to-enter contest.

• WIN the game version's flight capes of *Airwolf* from Elite, plus *Airwolf* digital watches, totaling \$23.00 per prize for four *Airwolf* winners.

• WIN runners up will get the game and the poster, all courtesy of Elite Software.

• WIN one of three grand prizes:

• WHAT was the name of the helicopter featured in a recent film starring Ray Parker Jr?

• WHICH type of helicopter did James Bond fly in the film *You Only Live Twice*?

• WHAT popular TV series did a Korean television helicopter serve as a prop?

Put your answers on a POSTCARD and complete the following: "I want to fly with *Airwolf* because . . ." In an art and writing manner on fifteen words or fewer.

Then post your entry to *Airwolf* Contest, Commando Software, 1219 Leslie Street, North York, London M3J 2B9.

ELITE is owned by the last day of June. Contest regulations rules apply and winners will be announced in the August issue.

THE WINNERS of the April *Robot* competition have now been selected. Each of the fifty winners, who had to study the workshop and guess the odd wooden set, will receive a copy of the *Disk Doctor* from Melbourne House.

The lucky winners will get a DFT-Tronix/Circuits Speech 64 voice synthesizer, featuring wireless remote control for the Acorn 3000. The winners are: Dr. Morris, London; S. McCarty, Newark; T. Whitford, Teddington; C. McNaught, Sudbury; P. Welch, Lower Brafield; L. Russell, London; A. Brown, Amersham; T. Miller, Dewsbury; P. Lewis, Oxford; S. Lee, London.

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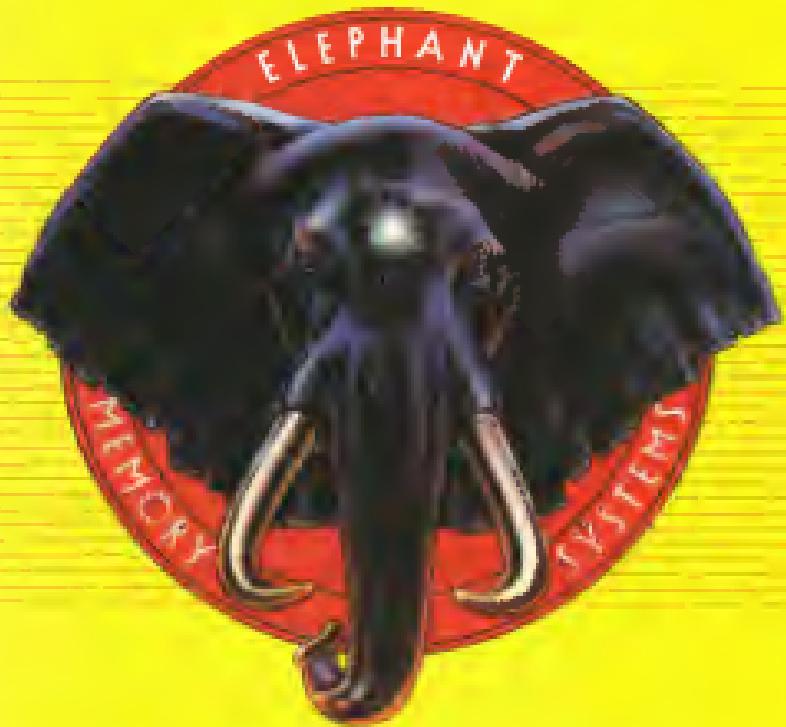
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